

the transfer of the second section is greater

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Beni Walid

Libyan Arab Republic

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Assistant Prol.	4,580	5.700 5.040	120 80	6 6
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131 The Inelitute provides furnished accommodation

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The Cultural Counsellor.

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TIMES NEWSPAPERS

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Beloff accuses DES of bid to destroy Buckingham

The Department of Education and Science is working to destroy the University College at Bockingham, Professor Max Beloff, the college's principal, told a conference in Oxford last weekend.

He was speaking at a conference on the control of higher education, organized by the University Teachers' Group in roujunction with The THES. His theme was the "Independent olternative".

Professor Beloff said the Civil Ser-

Professor Beloff said the Civil Service Commission had refused to allow holders of the licenca awarded at Buckinghom to take the Civil Service axaminations for graduates. The Ministry of Defenre had also refused to accept licence holders as the equivalent of graduates for the nurphso of receiving a commission.

a commission.

Thirdly and most importantly, the Social Science Research Council had made it clear that universities which accepted Buckingham licence-holders on postgraduote courses in the social

on posigraduore courses in the social sciences could not expect them to receive SSRC atudentships.

As a former professor of social administration, Prinfessor Beloff said he had many contacts in government. He understood that other Government deportments bud been advised by the DES not to recognize Buckingham qualifications.

tions,
Mr Gerry Fowler, former Ministor
of Stale at the DES, denied at the conference that the DES wished to destroy

Buckinghom.

Later Mr Fowler said the DES had advised other departments requesting information about Buckingham that the college did not possess o Royal Charter and that its qualifications were um validated by the CNAA.



Promotion prospects for administration staff in universities are far worse the for neademic staff, the Association of University Teachers' administration

A ototion from East Anglia Units slay nuted that while administrati-stoff salary scales were rlosely relac-to toaching staff scales, the sease 20 per cent.

There was criticism of the walk which the Committee of Vicella-cellors and Principals was said to be intervened in the AUT's succepting

ing, and also its policy of encouraging mergers between colleges and the Isrger polytechnics. He said ir would history at Sussex, who spoke on

Administrative

stoff representatives heard a min annual conference in Manchess recently.

joniur ratio among administrative and was far lower. Among teaching and the proportion of senior post at about 38 per cent, while say administrative staff it was barely aim.

intervened in the AUT's attempting information from universities of the effects of o national administration staff structure.

Mr Laurie Supper, general secretary said if the association could not the information on a voluntary bask is would take advantage of its right. ment's decision to reduce teacher truinhave been quite wrong in leave a large number of small colleges tectering on the edge of viubility.

Mr Rodorick Kadward, lecturer in history at Sussex, why snoke on

the information.

Individual universities had been be pared to provide the AUT with information it needed relating to it description of jobs being carried out various grades of atoff. But the CVI had intervened to prevent many versities from replying, he said.

The AUT executive was requested continue its drive for machinery is settly conditions of service for said. "Audinrity and Alternatives", sing-gested far more cultural exponditure to correct the malaise of underemploy-

He ergued that ell status distinctions between higher and further education should be abolished and the binary policy dismanfied. "Comprehensive, continuing education is long, long overdue", he added. istrative sroff on a notional cather is

THE KINGDOM OF SAUDI ARABIA **University of Riyad**

ment which was a consequence of long-term under-education.

Professor Mux Beioff : contacts in

Applications are invited for appointments to positions of Lecturers, Assistant Professors and abova starting October, 1977, in the following specializations:

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As the Scottish Office has bounded out, the 18-vote defeat an procedural motion to adjourn the House

Defeat brings hope to Scots colleges

As the number of places is unit Brace Millan, Secretary of State
of Scotland, is expected to modify
is proposals for teacher treining
a Scotland in the facu of fiercy
fidely and lust week's Communs'
test.

As the number of places is unlikely in be increased, the second
course would involve the creation
of small units—a situation which
the Gurernment has tried to avoid
in England. The third course seems
the most probable.

As the Scottish Office has possedural motion to adjourn the shows need not uccessarily mean phisantal changes. But colleges feel lopetal that attacks on the hoposais by both Conaervative and labour MPs will lead to o revision. At a meeting with members of the Association of Lecturers in Cultiges of Education in Scotland last makes of Education in Scotland last makes the proposals unchanged, bread the proposals unchanged the proposals would mean the closure of Cullander Park and Craiglo colleges. Dunfermine and Craiglo colleges in Edinburgh which has campaigned vigorously against the plon, said this week which the falling bread the proposals must add some veight to nur one deductioned arguments against them.

The Labour Porty in Scotland has already rejected the proposals will be asking the scuttivity of the Congress of the Congress of the Congress of the proposals would mean the closure of Cullander Park and Craiglo colleges. Dunfermine and Calleges of the proposals must he plant the proposals would mean the Callege and Education in Scotland the proposals would mean th

The lotroduction of sufficients as a courage and support appropriate by the resocution before their fee loctors sizes by the collection of the property of the

Muro controversion is the demend with the serior motion put forward economic well strike cuts, and the union's by the NATFHE's southord branch, uncomployed the urged to en for all agreement that TEC and

lud my Government proposals been pm forward in su ham-fisted u manner. h was not in the biterests of Scot

Three Labour MPs voted against the Government, and others are known to have misgivings ulmut the

tish education that training should be entremented in the big cities.

Great debate 'should look at Russian'

and Wales ond, in perticular, pro-more conservation between the veri-nus bodies in edult education ond review current practice, organization end priorities with the oim of de-

ploying present resources effec

lively.
The revised proposuls suggest that the council should sist essist

In the development of adult educa-tino policies and priorities "with

ino policies and priorities "with dfull regard to the concept of education as a process continuing throughout life".

Y A full-time secretary will be oppointed by the council, and will be on the stoff of the Marional institute of Adult Eduration.

Annoved odministrative expenses will be met by the DES within its direct grent in the institute.

Mr Arthur Stock, director of the NIAE, said this weok: "We well-come the enununcement as a stoto-

come the ennouncement as a stoto-nienr of intent. Now we are in n

The deteriorating status of Russian studies should be examined in the notional debate on education, four associations of Russian and Slavonic studies have organ.

studies have urged.

In a lotter to Mrs Williams, the Sucretary of State for Education and Science, they say that the amount of Russian teaching in Britain dues not reflect the status and importance of the Soviet Union. The four associations, which have recently joined together to form a joint consultative committee, era the Association of Sisviet University Libraries. Significant University Libraries: Slavonic and East European Group.

NATFHE sanctions plan to fight redundancies fessionally with Russian, Slevonic, Soviet and East European studies

in oppose compulsory and science in the color of the colo

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Eleanor Marx

nient of intent, Now we are in a position to negatiute something further, and the proposols are a promising beginning."

The Universities Council for Adult Education has greeted the proposals with qualified enthusiasm. Professor Norman Jepson, Leeds University's director of adult education and extra-united stadies and secretary of the UCAE, said: "Wo have been concerned whom provision for development, has we well-time the mention of this in the terms of reference. We also welcome the concept of a small concise rountil."

Lemier, juge 14 Gareth Stedman Jones reviews the second volume of the life of Eleanor Marx by Yvonne Kapp, 16

Polytechnic profile

Sue Reid visits the Polytechnic of Central London "the most adept at winning externally-funded research awards yet doggedly determined not to ape the university sector", 7

Teacher cuts: London Judith Judd describes the conflict between national and local priorities in Between them they represent ell teacher education in London, 4

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Kenneth Thompson, director of the OU's North American office, contributes a "Don's Diary" from Washington, 5

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All and the same		

Sandwich courses have

Judith Judd at the CRAC conference

'a bright future'

wich courses mode by Prifessur Alan Smithers, of Monchester Ilui-versity's Deportment of Education.

Mr Ayer agreed with Professor Smithers that sandwich courses were not integrated and that they had not lived up to expectation. The central

flaw in his argumeet, however, was
thet ha falled to recognize nonvorstional saodwich courseo.
On this basis, he chollenged
Professor Smithers's ergument that
sandwich courses tended in narrow

career alternatives. In the non-vocational course, there was n wide choire of final options, specializa-tion was delayed, and the wark experience was not restricted by the acsdemic content of the course, "All help the student to define and to

resolve career problems better thun any other type of undergreshate rourse of the said.

The non-vocational course helped

The non-vocational course helped make the tension between notion and arademic study explicit. "The increased maturity of students after placement arises from the fact that they have terms of reference autside lecturers and textbacks."

Professor Southers hed failed to think through the relationship between academic study and work,

week.

Dr Murrny, n lecturor nt Cambridgeshire Collego of Arts and Technology, with is to hecomes assistant chief afficer of the Countries.

Sue Reid reports from the Universities Council for Adult Education conference at Bristol



Need for bridge with community

departments can provide a vital bridge between universities and the community, Dr John Tinsley, the Bishop of Itrismi, said last week.

At the annual conference of the Universities Council for Adult Edu-cotion at Bristol University, he said that same academics remained unconvinced that continuing education was a sultable subject for universities, but he emphasized that in the present economic climate adult educution end extre-mural provision could pley s key part in restating the role of universities and their relationship with society.

Until the recent growth of contimiling education, extra-murol departments were the only way uni-versities could express their concern for the educationally under-privi-leged and edults in the community with wished to exposed their knew-ledge. The development of con-tinuing education in universities was important because of the contribu-tion which could be made by mature

Universities, Dr Thusley mulnicolned, were able to foster a quelity teaching which ether providers adult education were unable 10. They produced a body of rasearch ubout odult education which was becoming locreasingly Important ns various organizations extended work

Graduates must spread word

The growth area for universities in the Research Consultancy Services, the 1980s would be in continuing education, Professor Elfyn Richerds, former vice-chencellor of Loughborough University, told the conference of university, told the conference of university courses of the conference of the confer

for university convocations fassociations of greductes) to makes their voices heard in the arguments about notional aims and prieritics in higher education. This was eclosed by soverol speekers from the floor. Thiking on the conference theme of the inter-reletionship of universities and the community, Professor Afan Morten, of Manchester University, lescribed e continuing, serfeua situation in which neither industry nor the ecndemic werld understood each niher's problems. He wonted to see eu increase in such efforts as

Venables development sought to meet universities' 'search for custom'

a mounter of the Venalities Committee, told the conference that adult education provision should be increased in scale and scupe.

increased in scale and scape.

If e suid that advice and information nbout continuing education was inallequate and course provision limited. He added that there was an under-use of existing facilities nill a need for rollaboration throughout the field.

The Venultes report on continuing education twis greeted with some scepticism by the Universities Chancil for Adult Education at its annual conference at Bristal University last week.

Doubts were voiced over the report's umbitions call for a gradual injection of funds into adult cduration to a level of £20m by 1984-85 and a second praposal that extra funding should be given to the Open University for the support of o continuing education division.

Discussions about the report were started after Mr Normen Gower, senior lecturer in the Open University's faculty of utarhemmites and a member of the Venables Committee, which published its report last December, he should like to see a development was understoop multiple of the Venables Committee, which published its report last December, he should like to see a development was understoop multiple comment on the Venables report, coincided with the mountenant in the fundament of the provided. It should be would be provided. It should be collaboration and reference, which published its report last December, he classified the venables Committee, which published its required. We would like to see a derelopment was understoop would be desperate for students by the mid-1980s and would then have to cater for mature students should be working group, headed by Mr Paul Fordhem, director of Soutbampton University's department of adult education, on the Venables proposition, and it and its outline of objectives.

But many delegates felt that the paper's tone was no welcoming. A short paper to the conference at Bristal Universities which funds and the venable of the

Call for centralized control of policy-making

tralized. The state of solution of the cation of tralized of solution of tralized of solution of the cation.

of the Universities Council for Adult Education at Bristol University last week, he expressed his fears about the present tendency to decentralize decision-making in this field. Many urgued that adult education should be rooted in the lecal community, well as higher education. They had although the council initiative should would have incal and national func-

be preserved centrel planning had to be ochieved in the future. "The most important thing is to put education into o wider tion ore the only comprehensive context. he soid. "I non neutely arrange of the tendency in local education system has so fur been cation entherities for technical colable to develop,", he soid. They

Mr Willems criticized the current

Is studying easier

time students.

at home?

Mr Derrick Williams, the director leges, polyterlinics and institutes of possessed e reserve of expertise of the newly established Gloucester ligher education to separate them that could be used by adult education shire institute of Higher Education selves from the other providers of tion. Whitin o corporate strategy and former chief education ufficer udult education and go it alone." they should be seen as major pro-viders of adult and continuing edu-

ralized. snid: "I find it depressing that Lucol education authorities Speaking at the minuol conference many in adult aducation assume that needed to recognize this strength of the Universities Council for Adult no initial section can be taken with expertise within the new institutes, expertise within the new institutes, Mr Williams seid. It was important

> tions and add to provision for part- tional Centres Association. He succeeds Professor A. J. Allnwuy, "The institutes of higher educa- professor emeritus, Leicester Uni-

Gerry Fowler, page 10 Leader, page 14

The growth area for universities in the Research Consultancy Services, the 1980s would be in continuing education, Professor Elfyn Richerds, former vice-chencellor of Loughborough University, told the conference of university, told the conference of university convocations of their annual conference on Monchester University.

Speaking ut the conference dimensional dimensional conference of the Asacistant principal of Sheffield City was going to call the tune for its unastructure in education to the conference of the Asacistant principal of Sheffield City was going to call the tune for its unastructure in education to the conference of the Asacistant principal of Sheffield City was going to call the tune for its unastructure in education to the conference of the Asacistant principal of Sheffield City was going to call the tune for its unastructure. employment, said recently.

He told a Young Conservatives' conference of the need to "get every from the multitudinono hadies, srhemes and commissions" that canfused the training field. Learning new skills ought to be more exciting than going out a Training Opportunities Scheme course.

There were better, and cheaver en even greater extent than now.

The 70 delegates ogreed that the ment in student services had been benefits to the community of univer-sity work was both fer-reaching and students living oway from home.

ment in student services going to concernate on better recording of accommodation nddress, better support services for the uncertain student, nr are they going to question the sacred cow that rules that students should live sway from home.

Caulon eed of dest real

Callon eed of Corbett asked.

There were better and chemic ways to organize troining, Mr Prior soid. For example, the fourth television chemiel could be used to teach job skills in much the same denty should live sway from home were better and chemical transitions. There were better and chemical transitions of sevil ways to organize troining, Mr Prior soid. For example, the fourth television chemiel could be used to teach job skills in much the same denty of the same denty of the same conditions.

Corbett asked.

There were better and chemical ways to organize troining, Mr Prior soid. For example, the fourth television chemiel could be used to teach job skills in much the same denty of the same conditions are they going to question the sacred cow that rules that students should live sway from home.

There were better and chemical transitions of several points of sever

Use TV to teach skills-Mr Prior

The Training Services Agency and the durious schemes set up recently by the Mospower Services Cumunission could be obolished if the Conservatives come to power, Mr James Prior, the Oppusition spokesman un employment, and recently.

Justors.
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The funny way to grab a student's attention

by Tim Robinson

Trackers whe want to keep their students' ottention should put some lokes into heli lectures; and there should be breaks to the lecture where studente can write out their notes.

These were two of meny suggestion, and the respect in the skiller frontesking to intelecking to this year's Biddiah Psychological Society centrence at Exoter University last week.

He dismiosed much of the respect in a experiment, and the respect in graped the protection of the lectures and the struction in the skiller increased in the skiller increased

the state of the s

Britain aims at world's best training target

hy Bert Leilge ling places for in-scryice train was more authitious that any of country had attempted. Mr Ja Parter, principal of Balmershe lege of Education, Reading, we conference of the Committee Rescurch into Teacher Educations. last week, Speaking at Keele Universit

said: "I am determined to it on to that 20 per cent and to it os many ways os possible to a that resource to the schools"; in the present economic discourses the schools of the schools of the schools. colleges were having to be as training: working in the shi grammes, or acting as country were all being tried.

He said: "You can force o dentini courses for the neg to years et least. We bave had to up our short-term courses a mershe. Yet if we don't seem trelease ef teachers for issue training that 20 per cent will we

Mr Porter said he bad been contact with officials from the countries with thies such is ordinator for In-Service Train yet in some cases what her an aged was a provision of a king two days e year. Cased anly aiming of 12 days a year. lle pointeil out that Caste

raining, formerly in small to persed histitutions, was being centrated into a few large too lu Finland too, the 24 mile training colleges had been mile seven, all hased on univers The developments here, similar

portern but oriented towards um unforeseen Mr Porter ober They were outlined in the E White Paper, A Framework

Expansion. Mr Robert Clayton, princip St Martin's, Loncaster, one d few onlieges which era planes continue us e monotorhaichi 1980s, usked if tha two patem tencher truining—the cocurc where professional studies at maintained throughout the to unil the consecutive, where twere nnly begin information studies were completed to the studies w mutually exclusive. A students concurrent course appeared to better. They integrated acade study with tenching practice to cossinily and more tho students got As and Bs on teaching practice to the students of the students

should prevail maning the institutes—with the strong surviving und the weak going to the wall.

What many colleges under orders to diversify could one should be doing now would net in fact he done because of luck of researces. There was a danger of an uncellying struggle for survival and prestigo which would divert ottention from other areas of education which needed the money, such as the 16-19 year elds. lle thought rarying patte the two approaches were To find out where research "What has worrled many people has been the wholesole development of courses in the erts when there is already mounting evidence that student demand is declining." Social work aid

To find out where research it tencher education should directed. Mr Clayton had inquies of about 70 tutors and BEd and iners. He said that the problem of selection was put first. It examiners wonted to know it there could be some methods of selection that be some methods of selection other than by references from the dual the college interview.

Mrs. Stelle Camping, sub-dead. courses

knowledge of the universities real contribution to British life.

Endowment policy

The Generol Accident Fire and Life Assurance Co. Ltd is to endum sent to legar the formance or snell mixing. Never the fire and life assurance Co. Ltd is to endum sent to legar the formance or snell mixing. Never the fire and Life Assurance Co. Ltd is to endum sent to legar the formance or snell mixing. Never the fire and Life Assurance Co. Ltd is to endum sent to legar the formance or snell mixing. Never the fires are run off their feet, when the wildered youngsters arrived in strange posses, of the country. The benefaction follows the first agree described in strange posses of the country on live in the strange posses of the countr

The rule of the allversified colleges was to innuvite rafter than to supply more of what already existed in ulundonce.

The Depertment of Education and Science's policy towards the new institutes of higher education amounts to "social Darwinian lunary", Dr Robert Murray said last week. Dr Marray sow two ways for which institutes of higher education talght develop. Of the liberal arts colleges, he said: "As our linur cities continue to decay, os the struggle for digs, becomes more description. essignt chief afficer at the Colli-cil for National Academic Awards this summer, was speaking at a Careers Research and Advisory Centre confurency at Bulmershe Collego, Reading.

Ho said the DES appeared to think that the law of the jumple should prevail annuag the institutes

timest environment. Aesthetica end gengraphy would play on im-partant port in utracting students once colleges had shown that edu-cotional standards had not suffored.

Turning to colleges of cilication mergol with colleges of further educution. Dr Murroy sold that these had great potential. Further oducation had suffered from daprived the college of th tion fur years. The mergera would help to occure helter provision for

Tony Becher page

Sandwich course plan for lawyers

The Department of Health and Social Security's announcement that it is to finance an extra 300 grants to postgraduete aecial werk trainees has been welcomed by social work leachers.

Sandwich courses have been edvocated es a good way of training lawyers in evidence to the Royal Cemmission on Legal Services. The suggestion comes from the law department at Brunel University.

welcomed

Universities set up hardship fund

Several universities are setting up hardship funds to help students who increased tuition fees next October. Manchester has agreed to give

Non-vocational sundwich courses have a bright future, Mr Inlian Ayer told o Corecrs Research and Advisory Centra conference last week.

Mr Ayer, of Middlescx Pulytechnit's Higher Education Advisory technit's Higher Education Advisory Centre, attacked criticisms of sundcentre, attacked criticisms of sundcentre, and work in well-organized placement programme is made to facus on the courses mode by Professor Smithers, of Monchester Italians Smithers, of Monches fina,400, Surrey £63,500, and Sussex 60,000. University College, Swansea, and the University of East Anglia have also agreed to set up Surrey University council said

dents three years' arademic rork sambiched between two years' work with a certain firm was that it was often a mistake for 18-year-olds to commit themselves to a specific industry of the start of their course. Mr Ayer onld that non-vocetional sambyich courses would be fevoured to the future because they reconciled most effectively the needs of Individuals and the manpower needs of suciety. thot this commitment to a hardable fund would adversely effact the teoching and other work of the acaversity had no uncommitted funds They were flexible to the student's and would have to find tha money They were flexible to the student's change in mind, yet focused aftention on the need to earn a living. Soon the waste of the troditional academic form of education would became insupportable. A higher priportium of each age group would need to be educated to fill the jobs from its recurrent grant. Staff/student rotios might be increased ond some amenities have to be cut, it

of its £63,500, Surrey is giving footnoted and the educated to fill the jobs available.

At the last count 5 ner cent of university students were on sandwich caurses and 35 per cent of palytechnic students. Non-vacational courses arcounted for only 25 per rent of that 35 per cent. If the palicy-makers accepted the case for non-recational courses they would Of its £63,500, Surrey is giving

Hull, Heriot-Watt and Bristol Universities and Ruskin College, Oxford, have Issued attenuents, deploring the increases. Heriot-Watt says it will have to increase the fees because of the financial loss it would niherwise incur, but "with great refuctuace". Hull has said ue student should be forced to leeve e course because of the increases. The upparent assumption bahind it the increases. nan-rocational courses they would Policy is 'Darwinian lunacy'

the increases, that a reduction in the number of overseas students will be matched by e one-to-one saving in the average cost per student, is absurd, the Association of Polytechnic Teachers has said.

In Loudon, the polytechnics had been asked to reduce their numbers of overseas students under ponolty of losing one lecturer for every 20 continue to necay, os the struggle tor dig. becames more desperate and as pressure an existing residences mounts. I would predict that e certain type of student will vote with his fact for the comparatively lavish, semi-pasteral mulcace of the former colleges of charation."

or overseas students under nonolty of living and claimer for every 20 of living and claimer for every 20 pives as students once dayone of given quoti. If a polytechnic entrality is under the comparatively in about \$13,000 e year in fees, contributions to general taxation and foreign carrency, it would have to give up, the services of one fees lavish, semi-pastural amblenco of the former calleges of characton."

A large urban polytechnic could be a disincentive to students who wanted a more inthuste and emutional environment. Aesthetics and gengraphy would play on the polytechnic gave appropriate port in attracting students.

"In view of the foregoing enalysis, it is not hord to understand why
the finuncial organisms cancerning
overseus students have net beop
repidly occepted", it says. The Govcrunient should have considered
designating favoured countries (the
EEC unil Commonwealth) and introducing government to government ducing government to governmeet

The education committee of the The education committee of the Association of Metropulitan Autherlites has out up a special working party to examino the recent increases in student tultion fees. One of its concerns will be the ability of local authorities to finance educate levels of discretienery ewards.

Canadian studies officer appointed

PNL occupation threatens to hamper admissions

A simlent occupation of the Polytechnic of North Landon's administration block, finance office and telephone exchange was this week threatening to hamper seriously the will have difficulty meeting the college's admissions princess for the coming academir year.

The six-week occupation in protest over student fee increases and the luner London Educotion Authority's overseas students' quota nolicy continued throughout the Easter weckend and has brought all administration work in the block to a huft. The distribution of etudent



Burring the door: Kelth Shallcross, vice-president of the PNL

grant cheques at the start of term next Monday may also be in jeopardy.

Attempts by the governors and Mr Terence Miller, the polytechnic's director, in hall the action before the Easter vacation oil failed. The governors have since applied for a nussession order but a court hearing is not expected before the end of this month.

A court of governors' meeting at the end of term ruled that n quote on overseas students would be bormful to the polytechnic and its educational services. It called for to ensure that the cellege could continue to recruit overseas students capable of benefiting from tho

courses offered. The meeting voted to make atrong representations to the authority end the Department of Education and Science shout the herdship likely fer self-fluencing atudenta after tho fee increasea. It maintained that feas for these studepts, if elready en courses, ahnuld be frozen at the present level.

A guorentee was also given that tha polytechnic would set up e working party to alleyfats financial hardship omong self-supporting students If the raprasentations of local and untional level were unsuccessful.

But Mr Keith Shallcross, vicepresident of the PNL students' union, said this week that the govenors had failed to put forward concrete proposals for opposing the fee increuses and the quote policy. An occupiers' meeting was due to bo staged of the rollege yearerday tu decide future ection.

The students unintain that re-crultment is continuing normally for next autum. But o polytechnic spokesman said: "The students' action is hukling up the recruitment process. The governors and the called the control have been very sympathetic but this action is particularly self-defending.

'Fashionable' structuralism and the French connexion

Tito difficulty of importing structuralism es a criticul method into departments of English and French in English departments was Leavi-Ism and Crinicism" at Gragynog ones of emnity. In Franch depart-Hell, the University of Wales

cenference centre, near Newtowe. The conference on "Structurallam and Criticism", was organized by Dr Celln Evans, of the French department et University College, Cerdiff. It was attended by lecturers from English and French depertments throughout the couetry, and there were two French guast

speekero.

British participants showed that they were well acquainted with the terms of current French intallectual debate. But the leck of any releted British tradition made it difficult

tude were that the meln tradition literoturo was the moin theme at elte, which hed few points of cma recont conference en "Structurof- tact with structuraliam-not even ments, structuralism had feund a place as the critical compenion et a literature whilek was by definition en Import, but the isofetion of moderu languages depertments moent that structuralism dld not

spread further. Furthermore, students of littera turo in Britein recely had any philo-aophical training, which was atill a central part of the baccaleuroat

Anether factor was the differing institutions ie which litereture was studied. Prench structuralism had net baen developed in universities, bur in peripheral institutes cou-

be been welcomed by social work has been welcomed by social work sechers.

The Central Ceurcil fer Education and Treining in Sociel Work said that the decision would lorgely a magistract scale of the decision would lorgely a magistract course in a solicitor's office, and sufficient of the sudding special point of the sudding special point of the contral course, by a midning to for it courses by a suffuenced by the strong the state at Brunel offered e degree ourse in a solicitor's office, and suffuenced by the strong the state at Brunel offered e degree ourse in a solicitor's office, and suffuenced by the strong the state at Brunel offered e degree ourse in a solicitor's office, and suffuenced by the strong the state at Brunel offered e degree ourse that at Brunel offered e degree ourse that at Brunel offered e degree of integration between seadonal relations of the strong that are brunely of such as a leavest of such as a strong that the council is still worried shout the lack of menty for non-Brunel and the contraction of the second annual contract the contract is a strong that the strong t

C 1

Teacher training reorganization: London

National and local

in its affocution to Inner London bot ILEA education officer, Mr Peter Newsam, does his celculations differently and disagrees.

ingreaments between central and local government. Mr Newsum argues convincingly that the propased number, which will involve the closure of enother college, should be increased because London is both a national and a local training ground for teachers in short-

uge subjects : Battersea offers home

conomics, Dartford physical edocu-tion, and Shoreditch craft. Mr Newsam has already proyed

the force of his argument. The ILEA pruposed the closure of Shoreditch, one of the country's main suppliers of craft teachers, and the DES response was swift. The vice-chancellur of Bronel University was summaned to the DES to heavy the requests that proposed

to hear the request that negathetions for some type of merger with Shoreditch should begin. Everyone, including the H.EA, sgrees that

Shoreditch must be saved and the Government will be in difficulties

mainro students are bound to dwindle with the controction of the

tenching profession, despite Mrs Williams's ossurence that she ix

mixlous that mature students chould

The olternative in closing Sydney Webb would have been the closure of the Polytechnic of North Lundon's oducotlon department, which

also has a substential number of

mnture students. Another renson why the decision wont against Sylnoy Webb was that North London's department had heen established longer.

continue in baiceined.

priorities in conflict

ability.

In fact, what has been happening is that because public and direct grant schools put forward most candidotes, they get to know how to work the system to their own advantage.

Whaterer people say about the CJE (Colleges Juna Examination), in the end it comes shown to sophisticated question sporting and the more practice teachers have at that, the better menand their candidates.

"Many sre not morely non-numerate, they are proud of it. Many management departments in polytechatice and universities have invested heavily in expertise in the

behaviour of sciences and this invest-ment hos had some beneficial effects. But that experties is likely to hove to be deployed in a more stringent context of productivity and performance", he said.

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7 nighte on the Coeta Breva to £126 pp for 28 nights in

Creta (from Luion) and £121 pp for 14 oldite in Switzerland (branklast included in priope for Auetria and Switzerlend). The only additional coat you pay la the 2 par cent

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Numeracy key to productivity

Management training must reemphasize numeracy skills to prepare for the resurgence of productivity in British industry in the
1980s, rhe Rev Dr George Tollev,
principul of Sheffield City Polyalthough that will be increasingly

post Bullock, post-devolution, post-devolution, productivity, growth and connunic midicator curves will either be post-cetastrophic or will have shown

boom in 1980s—Tolley

More wen from public schools get places at Oxbridge hecause more apply, say the Oxford and Cambridge students' alternative prospectuses for next year. The prospectuses set out to displet the myth that only unles from public schools uced apply.

"There are lots of theories, mustly exaggerated, about the Cambridge adulsions policy", says the prospectus. "Supposedly anyone from a state school has less chance than anyone from a public or direct grant school, egardless of academic ability.

"In fact, what has been happening is that because public and

of the women's colleges can force women to make on ortificial dis-tinction between their value as

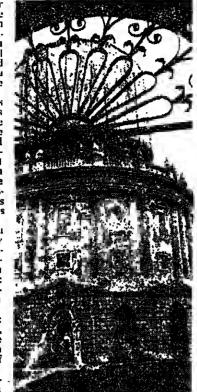
The prospectuses also contain details of the universities, college by

"Whatever people say about the "Whatever people of concess the same to suphisticated questions sporting and the more practice teachers have at that the letter prepared their confidences will be."

The min of the Dafurd prospecture, similarly, is "no encourage more people on come to Oxford, by odding an extra dimension to the view of Oxford University reveoled in the official prospecture. For the fortunate this extra dimension is provided by teachers or links with people ulready here—the Oxbridge connection.

"We would like to encourage more women to apply and to chollenge the assumption that it is exclusively a poblic school preserve."

Both prospectures comphusize that



Ooc of the Oxford attractions—the Radclife Contern.

Plaid Cymru urge all-in new university

A complete revision of higher oducation in Woles was proposed lost week by Plaid Cymru, the Welsh Notionalist Party. They want to establish a new university of Walss in which the present university, that polytechnic, the new institutes and colleges of higher education and the remaining independent colleges.

The constituent colleges.

A complete revision of higher oducation in which the present university of the education committee, Mr Newson said he left the Sydney Welb School of Education et the Polytechnic of Central London would have to close partly because it taught only mature students. The whole of the Diss list reflects the foet that praspects for mature students are bound to

slie Polytechnic diploma of manage-meat studies conference in Syar-borough, said that more and more graduates in the social sciences were finding their managements. these changes must come a greater awareness of the chollenges that The proposol is contained in the party's education policy document which was discussed at an internal awareness of the chollenges that face the monager in a much more openly compelitive sinution."

He said there must be more oungagement davelopment programmes which draw together monagers from the various countries of the EEC.

Another areo of interest in management development would be that of systems and ayaroms plonning. There was now a formideble battery of tools available to the manager. which ivas discussed at an internal meeting at the Albert Holl last Saturday. Councillor Hywel Roberts, Plaid Cymru's spokesman on educatiun, sind the policy documant was seeking to do onay with the divisive binary system which creates an imbolonce of resources between the minerally and necessity specifically. the university and non-university

"I believe strongly that we must do away with this division and pro-duce a new approach to higher edu-catloo in Wales", he said.

longer.
In the case of Phillippa Fawcelt the ILEA clearly had difficulty in reaching its decision. Though the college is a mountechnic, it believes it has shown its flexibility in carry-

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Zoological Society expands its research

Last year saw the consolidation of the Institute of Zoology as a focus of research, according to the annual report of the Zoological Society of London.

The Institute, formed from the Nuffield Institute of Comparative Medicine, the Wollcome Institute of Comparative Physiology, the zoo's animal hospital end the pathology is bocatory was 6 source of scignific expertise in reproductiva physiology, blochemistry, ianuunology, parasitology, cytology stid gonetics, Spending increased last year by 12 per cent to 12.2m.

New lion terrages ivers oponed in June by the Queen.

The Zoological Society of London annual report 1976 [no price].

Coilege of Philippa Fawcett and Furzedown. Two thousand places to be divided hetween the remaining institutions:

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Coilege of Philippa Fawcett and Furzedown. Two thousand places about the amalgation of North East London

Polytechnic of North Bank

Thames Polylechnic ...

Shoreditch Kingston Polylechnic ...

Middlesex Polylechnic ...

Middlesex Polylechnic ...

Middlesex Polylechnic ...

St. Mary's, Twickenham ...

Polytechnic of North Bank

Thames Polylechnic ...

Shoreditch Schere of Couding All Saints) ...

St. Mary's College Increase Increa

dution of diversified courses and in 1975, the DES expressed doubts about its ability to remain a free standing iostitution, but it is now confident about the future. London, like the north, has a de-clining population and has been hit hard in the proposals for the re-organization of teacher training. The As un HEA ufficial pointed 6 Department of Education and Science claims it has been generous

As an HEA afficial pointed on at a recent meeting to discuss colleges, Inner London has suffered less than the surrounding are. Both Stockwell College now part of the Bromley Institute of Higher Education, and Thomas Huxley College, due to become part of the Ealing Justitute of Higher Education, are basing their campaigns to stoy open on the gam in provising especially for in-service training which their closure would leave.

Another casualty in Lordon The DES proposed that teacher training should coose at the Pulvtechnic of Central Landon and the College of Philippa Fawcen and Furzedown. The ILEA was to sort out the remaining 2,000 places, probably a reflection of strong disagreements between centrol and local government. Mr. Newsun

Another casualty in London is the North East London Politechnic which has had its 30 places reduced to 100 for pragraduate and post DipHE count only. The polyteclinic is concerned about the propasul because its lower and higher level coorses in linked.

llromley elone has a population comparable with the city of Northe ham and the college says its total catchment area is similar to be pringham and Liverpool togethe. Thomas Hoxley has a letter wine in 1975 by Mr Hugh Harding, as under-Secretary of Sinte, recognizing its volucible work in fow boroughs, Ealing, Brent, Harrow and Hillingdon. Stockwell, one of the uldest colleges in the country, will have on oll-gradoote latake this autumn, unlike some of the college which it is proposed shoold remain.

Against this the DES has set is determination to limit the number of institutes of higher educated to come up with a solution.

For the other Inner London colof institutes of higher education and in take into occurn Greets Landon's declining population. Thomos linxley despite is strengths in immigrant and inner city work—some of its pupils have then succussful touching precise at the now-funnons Farmley comprehensive school—is vulnerable because it has only 300 students, all of them mature. For the other Inner London, colleges threatened with closure the future looks less bright. The ILEA hos celucionly occepted that they must go. In his report to the education committee, Mr Newson said he felt the Sydney Webb School of Education et the Polytechnic of Central London would have to close partly become it tought only many

> It is a common feeling among the number of colleges in Greater Lea-don that the voluntury colleges in the reginn have received more the in the case it is presenting to the DES, says that the share of the Anglican colleges in Greater London and the south-east is 10 per cent more than the Church of England's historic share. Thomas If the proposals remain unchanged.
>
> This clear the proposals remain unchanged.
>
> This clear the proposals remain unchanged. This situation has arisen because the hurches have a say in the colleges

calloo in Wales ", he said.

The document points out that while the present University of Wales has expanded well beyond the needs of Wales Itself, technical and business education in Wales le still not fully meeting the conorry's needs. It says that one body—obligher education commission—ought to represent the state in its dealing with all aspects of higher education.

The comolasion would "strengthen the federal structure of the new university and avoid wosteful duplication of resources among a number of small deportments in various colleges.

Plaid Cymru is planning to hold is further education conference, in line work in the education commission commission—ought the college offecs six of the new university and avoid wosteful duplication of resources among a number of small deportments in various colleges.

Plaid Cymru is planning to hold is further education conference, in line shortage subjects a further education conference, in light the light of the proposals are light to be controlled in the lace of the lace of the lace of the light to serve its number of small deportments in various colleges.

Plaid Cymru is planning to hold is further education conference, in light the leaves and difficulty over the validation of the education continues.

The comolasion would "strengthen the federal structure of the new university and avoid wosteful duplication of resources among a number of small deportments in various colleges.

Plaid Cymru is planning to hold its excellent reputation in his report to the education continues.

The comolasion would "strengthen the federal structure of the new university and avoid wosteful duplication of resources among a number of small deportments in various colleges.

Plaid Cymru is planning to hold the proposals are lightly to serve its in the lace country of siste in the lace round of cuits and for its mather actions and

Bromley Institute of Higher meuted teacher tealing places
Education, Ealing Institute of in Greater London in 1981 will
higher, Education, the Polylechnic of Central London and the
College of Philippa Fawcett and
Furzedown. Two thousand places
to be divided between the real Avory Hill

Don's diary

OU in the US

We arrived in Washington DC at the beginning of September, having survived the "hottest summer on record" in Europe; and I am writrerord" in Europe; and I am writing this at what we hope is the cut of the "caldest winter on record" in the United States. We have lived through a period in which the paunit reached a record low. Even a short respite on holidsy in Florida after Christious ended with that state experiencing its first recorded snowperiencing its first racorded snow-

This diary account of my second This diary account of my second tour of daty as academic director of the Open University's North American Office Is strictly off the tecord—"deep background" as Dr Kissinger used to say.

The official record is in my telexes, oreotes and bulky monthly reparts, which probably fill several cardboard baxes in the vice-chancellor's office at Milma Keynes.

My first touc of duty was in 1974, shortly after the North American office was established to shore information and develop collaboration with American educational institution. tions. At that time, the office was on the 21st floor of e new building in New York, oveclonking Central Park, the Hodson River only

We lived in an opertment just off Central Park, and I could walk through the park to the office each morning. In December of that year, I rected o U-Haul truck from what seemed like no ormed comp in Brooklyn (berbed wire, guard duns and pistols in ovidence) and mayed and pistols in ovidence) and the office to Washington.

The present office is located in the centre of the district oround bufoot Circla, which contains must of the national offices of educutional assectations and fedoral education agencies. The Open University is now as accounted wart of that education now an accepted part of that educa-

Like most of the people wim work thene, we live out in the suburh of Chevy Chase. As in New York, one is surrounded by rosidents fur whom English is a second language: but whereos in New York thry would be recent immigrants, in Chevy Chase they ore more likely to be affluent diplomatic families. My five year old daughtee, Clare, was surprised to find herself the only child speeking English at the school bus ainp on her ficst morning. The child-minders who sit for us some evenlogs oce French mail peak hardly any English. Our corner shop is the French Macket. Like most of the people wim work

C'est la vie

I discover the "real" America egain meed visit some of the universities that have set up Opon University programmes and ere using our tourses. But even thon, one is forced to realize that there is not one America but sevacal, and that the teality is more vacied than foreigners see led to balieva.

A visit to Houston University

At one high-level aeminer held recently at IAOB, attended by representatives of education ministres, which has an OU programme, taught me thot Texans are much nor sophisticated than one is led to expect. Perhaps it was because they were having a French Week to Houston, and two of the attroctive female academics who administrated to the country of th shade and illecature), but I ceme are feeling as If I had been in Fart for a couple of days. Impressions were even mora confused by the fact that Houston OU pco-students a princess in Soudi Arabia and a resident of Manger Squore, Back L.

Back home in Washington there is a feeling of dejà vu as I watch mytell and colleagues in Open University programmes on local telesting Open University courses at those Macyland Open University in the Azores, out of reach of Washington television, tilms and tutors the Azores, out of reach of Washington television, tilms and tutors planed Apparently, among the most lines are those dealing with British part of the Psople and Organizations

course I beloed produce. It is nice in know that one's teaching is having such a far-flung impact, but I just hope it does not undermine

In spite of the Washlagion location of our office, there are still opportunities to visit New York, WNET/Channel 13, the public broadrasting station in New York, of teaching undergraduate courses with a significant relevised com-panent, in conjunction with several New York universities and calleges. They are very impressed with the Open University courses, which they regard as far soperior to onything produced in the United States, and they are also eager to learn about our teaching methods. Consequently, I have been up far meetings with WNET staff and ocademics from the participating colleges.

Blind date?

At the first meeting, I errived in myopic state having lost o contact lens (supplied by the NHS after a cataroct operation). I was relieved to find that the person chairing the meeting, the ossiatunt to the president of WNET, was also having trouble with contact longes. Since then we have continued to see eyo to eye. I only hope it does not turn nut to be a case of the blind leading

the blind.

Recently, there have been trips to Boston, which was my favourite American City when I taught at Smith College in the late 1960s. I represent OU expertise on the planning teom of project PROCEED (Program for Continuing Engineering Education), funded with several million dellors by the National Science Foundation and based at Massachusette Inatione of Technology. Its assignment is to de-Technology. Its nsaignment is to devolop a model programma of continuing education for engineers in

The programme is to be based upon the modular system and will explain innovative techniques for dailvery. It involves the callaboration of industry, professional societies, universities and government. It is of particular interest to the OU because the first self-simly modules deal with energy conservation—a strong research topic of the OU. It strong research topic of the OU. It could also have while implications for callaboration with the OU and subsequent edoption in Brion.

Reactionary sluit

In Washington, we are also involved in a number of interesting consultations. The Inter-American Development Bank is funding feesibility studies of the prospects for developing open universities in for developing open universities in Lotin Amacica, and we oro con-stantly called in for consultation.

Latin America was a canitalist rus-

to the Open University being primarily far "housewives" to reactionary slars and by suggesting reactionary shart and by suggesting that open universities would deprive the peasants ut their right to a full Oxbridge education (a Utapian dream). The Lutin American delegates seemed to enjoy the exchange and a member of the Hritish Embassy staff informed me the next day that my remarks had been butch appreciated at the bank. I wish I could make the same incression on the manager of my pression on the manager of Barelays beanch back home,

Royal walk

Another regulor event in Washington is the "dlologua on lifelong learning" held in the Congressions! porticipate. The meetings are oftended by oides to senotors and congressmen, representatives of edu-cational ugencies and ossociations, and other groups interested in dis-cossing ways of implementing the provisions on lifelong learning, which formed part of the Education Act pussed to 1976.

The soggested minual budget for these provisions is \$40 million, and so there are a great many intecested parties. In Britain, where such lobbying is less open, these monthly meetings would appear incorrections. meetings would oppear incongruous. In Washington, they ore welcomed and encouraged. At its worst the meeting cen sur

American education.

It is not surprising, therefore, that It is not surprising, therefore, that Americans ore intecested in leorning more obout the ficitish Open University and take occount of it in their thinking about the development of continuing education in America. We, for our part, do what we can to answer their questions; and to this cod, I am organizing a lurge OU exhibition and canterence at the Behish Embassy in April.

When the time comes to colurn home at the end of April, we will find ourselves torn in ollegisnee. I have been visiting Americo at I have been visiting Americo at remote intervols since I finished at Oxford in 1967, and each time I flui it mure difficult to moke general comporisons between Britein and Americu, even though such compacisant is my foyourite tonic in auclology.

auclology.

I remula foscinated by the similarities and differences in the respectiva authoral symbols and institutions. What will there be to commune with the Carter family walking from the Capital to the White House in the Inenguration Parode? If the Quaen does not promise to mark her Silver Jubilee by walking from Westminstec to Buckingham Palace, I do not know how I will perauade my daughter to return. What sociologist can calculote the affect on her of eight months of swearing allegiance to the Republic each mornlog?

Kenneth A. Thompson

The outhor is senior lecturer in sociology at the Open University, and currently director of the Open University North American office.



New York : opportunities to visit.

Why adult education to deny the peasants proper universities where they enuld train in he revolutionaries. (I apriligize for this crinte precis of an elegant thesis.) Formunately, I was able to point out that he had spoiled his organicant by making succring references to the Open University being

Non-vocational adult education accounts for 1 per cent of the national education budger. It occupies an obscure sector of the edu-

sional advancement, examination results, or higher ontput, many think the money is wasted. Soma public support—to the great relief of tax and rate-payers.

Liberal studies, by thele very iberalism, ore e apecial target for tho detractors. In every university city, and in aurrounding towns, thece exists a bullding offering winter cultuce, and o few weekend ond summer schools, to a minority of citizens. Needing no antrance qualifications, some ottend year efter year, freely choosing anbject end cutor. Since the old three-year oc tutorial coursa hes largely disappeared, they may, in time, hove ampled an Impressive if rather diversa menu of coucsas: modern astconomy, Russian music, Dickens's England, Gothic architectura, morina biology, the life and times of Nietzsche, theology for averyman. The list la endloss: wheca 12 people ace gathered togather, wanting loctures on aox end that is large loctures of adult educotion: mental adult to be the concarn, as much of a Ministry of Health as of Education. Indeed, we have much to learn about the interesting and the same local and the large loctures of adult educotion: mental and ond physical well-being, as much os education itself. They show it to be the concarn, as much of a Ministry of Health as of Education. Indeed, we have much to learn about the interesting and the large local and the large diverse menu of coucses: modern like a scena from Jaws, with sharks circling round the bolt. On the post-tive side, they cofloct the openness peoule ace gathered togather. want-

anyona in town is just back from

Eskimo, thay can have tham-if

Yet, If e lasting and integroted knowledge is the ideal, most education falls to the ground. The rag-bog of subjects learned at school ace et once forgotten by the vast majority. The main volue of edult education, in fact, lies elsewhere.

The young graduate mother, oll too often, becomes one of eociaty's wasta products. She is taken out of circulation, imprisoned within four walls, to be subjected for years to the incassant prattle of smell children, or to the pessavity of enugeing perent, Koowiedge, momory, power to reason eod to concentrete—all suffer. An adult education centre, where a crecke is offeced, can be a powerful corrective. Here is some avidence of the characteristic and the concentration of the classes is one classcoom, but the classes is one classcoom in the classes is one classcoom in the classes is one classcoom in the classes i

on our group", seld another, on our group", seld another, with hattenee, liow much above. "Yet, with patience, liow much resautful". reading and thought were a painful effort. scanning the delily peper was a one-way process; I could neither quastion nor acgua", any thoughts ood reactions were becoming entirely predictabla suddeuly, my children woce little intellectuals, and had left made abilind. "And here were the remedias!"

on our group", seld another, "would provide a soveca cultural above."

Yet, with patience, how much other?

With increasing leisure, adult education has a vast civilizing role deucation has a vast civilizing role above. Contact will have to be made with schools. Starring a two-way process, the extra-mucal two-way process, the extra-mucal two-way process, the extra-mucal two-way process.

And have wece the remedias:

"Tha psychological effect of a discussion group has been astounding: my family has been affect by my newly-acquired wholestes."

If I em ever to return to teaching, tha class will have been a etepping-stone fand, rathar surprisingly obsence from the children has increased affection all round."

Senecal studies. Much must be dona to help the memployed. However, meagre out resources, we cenhot stand sill.

I. C. Thimann The description of the author is a tutor in the Adult Education Department at Notting-ham University. And have wece the remedias:

Older people would appear to benefit even more. One of our trag-edies is that so few people, on leaving school, want anything mora to do with education. Another Is canional world. Linde is said or written about it. In a recent two-line television dehote on education, the adult sector was not eren actioned.

Further, since there is little tangerished advancement, examination the doctrical for them, and in some cases, brought to their doorstep, sional advancement, examination. Another in do with education. Another in the chief in their solvents for the world. They are observed to the world in some cases, brought to their doorstep.

Before and after-here are pensioner replies :

"I had found retirement the great illosina ... I was now s back nomber ... I was lonely on retiring to a new town ... I had become petrified; inarticalote, monosyllohic, o total loss to my

"Classes had improved the quality of life ... in some unexplained way, study and discussion tuned me up physically ... life had way, study and discussion tuned me up physically ... lifa had paint end porpose if I had to be somewhere at 10 am. ... A welcome change from the suipnenty (sic) of TV ... each new class was on ever-widening circle ... I rovelled in a mixed age-group ... I've discorded many of my cliches, and especially my prejudices about closs sud cace."

This is not to say that adult education abould be pcovided "free", like hospital treotment. Many "see red" when they hear Educationally, it is hard to say what 20 yaacs of this odds up to. With o lively interest, end private whitet, become quite au authority on Nietzsche, end even relate blat to twentieth-century Britsin. Links with morine blology might be inorder in establish.

"free" like hospital treotment. Many "see red" when they hear of flower arrongement, upholsiery, and bridge classes being peid for from rates and toxes; and no doubt they lect the same about modern religion and Renaissance music. Mony users of adult education, particularly those whose fees are subsidized, would volontarily poy o higher fee, if a system could be worked out.

Cautious critics have said that Cautions critics have said that young mothers, in particular, with their coles of protest and their need for escope from the children, nre being "brain-washed". For miyone of recosonable intelligence, they add, morriage is not necessarily an early death: husbands are learning to be coopecative, laboursaving davices eboued; housewives ebouid ocgaalzo for mutual aid, etc. Such critics are often older women. They themselves once mode a virtua of necessity, end consider that the prasent generation should do

majority. The main volno of edult editection, in fact, lies eisewhore.

I hove been involved in tha process of "continuous education" for o long time, and have been trying to find exactly where its tillity does ite. I therefoce osked about 90 studeots, associated with edult education, now following with me such varied courses es French life and languega, pollical history, end current effulra, to answer the questions: "Why do you come to edult classes?" and "What good hove thay dona you?".

The replies show that adult education bes become, to many, a sort of life-line, e psychological, physical and mentol need, a source of salf-respect. This is particularly true of two groups—younger married women, and ratired paople.

The young graduate mother, oil too often, becomes one of eociaty's wasta products. She is taken out of circulation, imprisoned within four walls, to be subjected for years to

two-way process, the extra-mucal lecturer would be a splendid aid to general studies. Much must be done to help the memployed. How-



Never has so much been wanted...by too many?

A leading economic commentator greeted Professor Fred Hirsch's recent blook The Social Limits to Growth as "an instant classic". Raif Dahrendorf has called h a remarkable book, Daniel Bell cited it approvingly in on interview, and a casual envesdropper in the senior common room of a certain Oxford college heard it recommended as required reading for the Euster vacotion by two distinctly untrendy politics dons. It is a book that speaks first and foremost to the global thinker and the acodemic emission.

first and foremost to the global thinker and the acedemic crustion. At once an economic treatise and a work of social theory, Professor lirsch's book is a study of the process of growth in affluent economies. The limits ha describes are not those of fossil fuels ruunling out or even bully-boy trade unions impeding hivestment. They lie within us, our nequisitive matives and in the nature of the things we how come to desire most, cars, subtribut homes, green countryside, status jobs and—not least—higher education.

On one level the book is about incomes policy, though Mr Healey will not find much comfort in it. On another it is an ambitious uttempt to derive a sociolist ethic from the mismatch of individual axpectations end collective provision. On yet another it is a rigorous but not quantitative work in welfare economies leading on from the work of Tiber Scitovsky and leading back to a reeppraisol of Adam Smith and Alfred Murshall. Interviewed recontly, Professor Hirach admitted that, pleased as ha was with the newepaper end magazino reviews, those he awulted nost



Professor Fred Hirsch: "People were sold an education pup in Britain in the 1960s".

smil in the nature of the things we hove come at colorie mind, care, subtributed hones, green country-side.

Out once level the book is observed the book is observed the care of the care

pay fur them increases. **Ron-economic" parts of life get brough into thie process so we begin to luty and self social contact, relate liny and self social contact, relax-tion, play—and even sex.

Here are the built-in limits to economic growth. As middleclas acquisitiveness has seeped down the social scale, the aidlity of the economy to supply middle-class class attributes such as education as means in the top jubs or housing he superior locations has faltered. Pro-fessor Hirsch says: "Economic suc-cess on the conventional reckomic contributes in this way to from

cess on the conventional reckoning contributes in this way to frushe tiun, tension and luflation."

It would have been out of keeping with Professor Hirsch's previous mork—on sterling and finance for Fleet Street—for him not to beet produced some panaceas.

On a philosophical level the body from tha focts of social life at the system ho hos found, allowed one euspects few purfessional even he system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found allowed one euspects few purfessional even his system ho hos found allowed one euspects few purfessional even his system ho hos found, allowed one euspects few purfessional even his system ho hos found allowed one euspects few purfessional even his system ho hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found allowed one euspects few purfessional even his system hos hos found his sown instinction. It is, he folks own instinction. It is, he for

Polytechnic Profile-25 Central London

Sue Reid at the former Regent Street Poly ohose go-ahead approach has made it the biggest polytechnic research grant earner

overseas.

Dr Ademson was opnointed rector of PCL when it was furmed in 1970 by the amalgamatian of the presidents Polytechnic, Regent Street, and the Holborn College of Law Languages and Commerce. It has now grown to a multi-site, sight school institution boosting 11,000 full-time end part-time etu-dents. pitch their expectations at too his a level, to stop eeeing in hish education the sine qua non of god inhis and in the pages of Committee, Life e parediso open to ell.

By inclination Professor Hitch is left wing in his thinking and it amness him that his book has been inneed by both liberals and Markinster. The Regent Street Polytechnic had dual origins. Founded in 1838 and granted a Royal Charact uno year later, its alms were to control the presidents.

The Regent Street Polytechnic had dual origins. Founded in 1838 and granted a Royal Charact uno year later, its alms were to control the presidents.

year later, its alms were to control teserch into, and to teach, engineering and science. It achieved this by running formal education courses, including training courses for science teachers, and by popular public lectures.

It existed solely in this form for more than 40 years when Quintin Hogg purchased the main premises a Regent Street to expend his work among the poorer classes of young people in centrol London. This work gradually assumed a four-fold purposo providing "spiritual, physical, social and intellectual activities".

Holbern Collego of Lury, Lungoages and Cammerco was founded in 1958 by the London County Council through the omalgamation of the former Princeton College of Languages and Commerce with the department of law of Kenningtun College of Commerce and Low.

with the polytechnic of a new level of Commincation's BA honours state and the School state attracts and the School hopes this treath of the polytechnic was a designed to be the state of the state of

tation techniques and technical and specialized translation are among courses offered at pustgraduate level. But the most unusual ospect Taking these into account 32 longinges are offered, including Afrikaans and Victuamese. Intensive refresher courses in

French, Dutch, Spunish, Gernan, Portuguese and Italian, consolida-tion and bridging courses for individuals and small groups and uswly developed in-house courses for jadustrial and commercial firms with special language requirements ore all on offer.

nll on offer.

Professor Water Darwell, alean of lauguages, unaintoins that the short course provision anskes the action unique in Britain.

In 1971-72 there were scarcely more then 1,500 student taking short courses at the polytechnic but by 1974-75 they had reached 8,000. In the current acadsmic year there are 300 courses with 10,000 etudens. Averago leugth bas increosed from 41 to 51 days and they cover such diverse subjects os corrocton protection, drame therapy, altroot economics, Marxiem and literoture, and biology.

Dr Adamson maintolns that thie

iem and literoture, ond biology.

Dr Adamson maintolns that thie year the short coursa programmo will reap £200,000 in revenue, a fect that he believes illustrates its euccess. But he is also adamant that the provision helps to fulfil the college'e role in its local community. In 1974-75 48 per cent of tha endents who attended wera from inner Loodon, enother 30 per cent from Greater London and 22 per cent from overseos and other per cent from overseos and other regione.

regione.

The Inner London Education Authority is not euch a fervent admirer of the progromme. It queetions the decision to stage the courses for the big institutional ratepayers and this business world on well as private individuals.

This is only one matter et issua between Dr Adamson and the polytechnic's funding authority. The ILEA has in the post threatened to cut the atoff of the PCL and the author four London polytechnics it funds if overseas student numbers ere not reduced.

For Dr Adnuson it is, seemingly, an on-going bettla. Ha believes that local authority manogement is unsuitable for polytechnics and cloins that not enough points are given to PCL for its short course and part-time provisions by County Hall.

Through the determination of the rector it is in the business of selling oducation alread end is corning £100,000 o yaur, much to the disapproval of the local authority.

The polytochnic is involved in ectivities throughout the Areb Indeddle east, Melsysla, Singapora, Indonesia, Romsnia, Polond, France end fraly. Advisory and design work is carried out at one end of the spectrum but the college has tha spectrum but the college has also been responsible for the estab-lishmant of entire technical institutions overseas.

Many of these activities ere conducted directly by the PCL, daspite ILEA worries that public monoy could be put in jeopardy.

With the ald of e \$22,000 grant

With the aid of e \$22,000 grant from the United States government apread over three years the PCL last October established e well-resourced American Studies Rasourca Ceotra. Its role is to meet the educational needs of schools and colleges, particularly these of terthers properly stite.

Tony Becher looks at changing methods of teaching and assessment

How projects and dissertations are taking over from weekly essays

rends, it is important to remember that these very often represent spontaneous "grassroots" raform. Sometimaa ideas for innovation travel through an individual teacher who moves from one dapartment to mother, and sometimes through the another, end sometimes through the student grapovino; but in a surpris-

Individuel tutorial help was, how-ever, rocognized to be essential from time to time: and one obvious way of meking its provision possible was to enabla students to work for s lerger part of their time on their

own
Tha growth of projects and dissertotions has been as repid as it has been extensivo. There is herdly an institution or a discipline which bae not been effected by it, although obviously some places have taken the idea agricusty and some have dismissed it altogether. In one or two departments, projects form the student grapevino; but in a surprislngly lerge number of ceses they
seem to be hit upon quite independently by different people in differont places ut more or less the
same time.

As far ea teuching is concerned,
I suppose that for most of us undergraduoto lifa consisted of a fairly
stonilard provision of weekly or fortnightly essays or problem assignments, which we presented at
tutorials either individually or in
the company of two or threa fellow
students. The tutorial provision
coexisted elongside a sat of fective to anyone interosted in broad
courses, end—in. the case of temporals rether from specific de-

coexisted elongside a sat of lecture but to anyone intercated in broad charges; end—in the case of tendencies wither than specific descipations of the consideration to the growth was very little variation on this pattern, and though the style es wall as the content of each activity obviously differed from one subject to enother, it was remarkably uniform between lastitutions.

The first major changes arosa out of the atrains placed on the traditional Oxbridge intercal by tha large expansion of numbers in the late 1960e. Seminar teaching cama more strongly into fabloh, end with it a growing interest in the particular problems and possibilities of working in: small groups



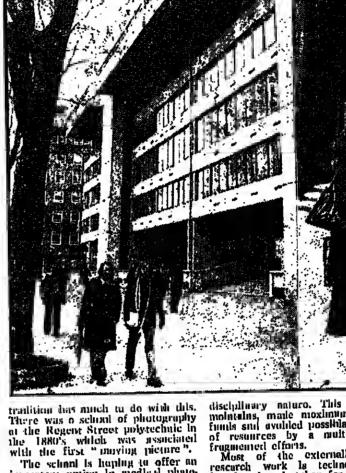
begun to change, in a direction which imbcotes a grestor readinose on the part of academics to give students an octive role in their own evaluation, as in their own learning.

learning.

A few departments deliberately encourega cooperation rether then competition smong their students, and allow them to submit joint projects in which their seporate contributions may be seperately assessed. Only one or two have gone as far as to allow undergreduates to negotiate what they ballaye to be a fair grade for their own work—though the need for this is certainly implicit in the rhetoric ebout higher education producing people who ere sutenessed.

Techniques of examining have olso become more varied over the past five years or so. The wire voce examination, though longestablished in continental Europe, has only filtered down from poststudents. The tutorial provision more localised seaching innovations: but no anythe interested in broad but seas of the season o

A heightened sense of consumer consciousness on the part of sendente con, I would argue, do nothing but good for the quality of higher education. It can brief direct benefits for those who are perleuce the process of being to undergraduate, but it can also undergraduate, but it can also those concerned with loveloping those concerned with loveloping curricula, providing teaching and



Weekly essays

world ontelder and indeed, that the first may make a proposed the street of the first make and the first make an

disciplinary naturo. This has, he mointains made moximum uso of funds suit availed possible weatage of resumces by a multitude of fragmented efforts.

Most of the externally-funded research work is technologically hased and undertaken for industry. The achuol of engineering and science currently his between f150,000 and £200,000 worth of external research funds, mainly provided by the Science Research Connell and industry.

There are 30 students reading for PhDs within the school's anglueering division. Research into cation systems and in manufecturing. A similar number of lossing division. Research into genetics of industriol mucroary ing. A similar number of lossing rasearch into pollution, the genetics of industriol mucroary organisms, and the application of physics to medicino and neurobiology.

Loet week the engineering division plucos its cupinal six on higher lavel work. Not overy aspect of the polytochmic's work is eo smooth running. In 1975 the Sidney Webb College of Education merged with it to become the achoul of oducation in the little stance of the Government's toacher training cutbock. Miss Rosentury Boresford, principol of the college, become pro-rector of the College of Education merged with it to become the achoul of oducation in the little stance of the Government's toacher training cutbock. Miss Rosentury Boresford, principol of the college, become pro-rector of Sidney Webb's Important work in that training of meturo student assured.

Today Miss Boresford, who eave the she pressed for the emaltiment of the she pressed for the emaltiment of the college of Education merged with it to become the achoul of oducation in the stance of the College of Education merged with it to become the achoul of oducation in the stance of the college of the College of Education merged with it to become the achoul of oducation in the stance of the college of the Coll

Consultancy services

MOTICE BOARD

Dr J. K. Davies, fellow and lutor in ancient litstory at Orlei College, Ox-ford, has been appointed to the Rath-bone chair of accient history and classical orchaeology at Liverpoid Uni-versity from October 1, 1977. He wilt succeed Professor F. W. Walbank, who is to retire.

Dr E. A. Prenell, lecturer in accounting at the London School of Economics, has been appointed professor of accountancy and financial control of University College, Cardiff, from October, 1977, and will succeed Professor C. C. Magee, who is to retire.

Dr M. Hrooks, at present a senior lec-turer at the University College of Swansca, has been imposited in the chair of geology at University College, Candid.

chair of geology at University College, Cardiff, Dr W. T. Dean, no present Research Scientist at the Eastern pulaeontology section, Geological Survey of Canada, Otawa, has been ampointed to the second chair of geology at University College, Cardiff.
Dr John Benys Illahiey, consoliant physician to the United Birmingham Hospitals, member of the external scientific staif of the Medical Research Council and homorary reader in Birmingham University's department of experimental pathology, has been awarded the homorary title of professor of renal oredicine by Birmingham University.

Ulster
DLht: Professor W. H. G. Armylage.
for his contribution in education and

Appointments ...

Lecturers: Dr M. Greenhough (physics and music); Dr H. H. A. Connisell (anatomy). Staff intor: Mr P. J. Rilen (lucal history in the department of extra-mural studies). Research fellow: C. Juli (economics). Essex

D. J. Sandew (government). Fellows;
O. K. Joshl (physicsl; J. Booth (sociology); Or J. C. Scoti (mathematics). Oxford

Visiting research fellowships at Merton: W. H. H. Shuwernes flor Milchelmas Term 1977); Dr Vassik Karageoglik (for Illiary term 1979). Reoding

Resder; Or II. A. Allport (psycho-

Promotions to senior lecturer : F. Neal (business and administration); Dr J. B. Stepanck (chemical engineering); Dr

B. J. WakeHeld (chemistry and applied chemistry); Dr. J. E. Handell (civil engineeringl; Dr S. Zolenkiowski (electrical engineering); Dr M. A. Cohen and Dr M. F. Lang (modern Cohen and Dr M. F. Lang (modern imagaages); Dr M. R. Parker (pure and applied physics). Lecturers; D. J. H. Bruckershury (blufogy); Mrn C. A. Roberts (business and administration); Dr W. T. Coffey (electrical engineering); V. Huke and E. W. H. Smith (sociological and publical stodies). Assistant director, Computing Laboratory; Mr H. D. Ellison.

Polytechnics

Suchal Science Hesearch Council for Part of Middlesex PolytechJames Dunnett, chairman of the Middlesex Pol

The St. Helens School of Manager well.

Stodies—Mr J. II. Mulholland hat the ex-Enfield and Hemion Culappointed head of the school, lege Industrial Lialson Centres (now part of Middlesex Polytech-James Dunnett, chairman of the best-loyed into the Middlesex Polytech-James of Monager Studies of the best-loyed into the Middlesex Polyture of Monager Studies.

Head, School of Management and Administrative Studies: B. Walters. Promotions to principal lecturer: M. Boult a member of the Condition of devolution which appointment on Suprember 1, 199, 1 recourages groups of staff in different cantre, the molicy, has been appointed at a lecture and the condition of the Cond acourages groups of staff in dif-frent fields to operate indepen-dently, minitaln and davelop con-

Open University programmes April 16 to April 22

Saturday April 16

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7.40 Complex analysis: Complex integration (\$1.5\frac{3}{2}\): prop 3.1.

5.02 Alaking equies of surfiely: Magging
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8.08 | Iunionieniols of human negrouply:
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8.25 | Revenue modelling - Interactive Onlo |
Analysis (T3-11; prog 3). Science in a Social Context

The Ashby Report commenting on the spread of broader interdisciplinary undergreduate courses

. . . and the situation is likely to improve with the increasing use of the valuable teaching meterial produced under the Science in a Social Context (SISCON) scheme . . .

Second Report of the SRC/SSRC Committee; Blonding Ilia Notural and Social Sciences

All those concerned to maintain breadth and perspective in contemporary education will applaud the advent of the SISCON study guides. The first six titles now available from your backshop ares Gelileo and Copernican Astronomy

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Discission making in Tricoln: Thu 0.40 Discretionary 100s of the Judiciary (1983) prog 80. Relonce dud fluv rise of lectureleny 10.10* alone 1980; Science 10.40 Science 10.40 (1983) 1990 10.30*

and the Malure Learner (Egg) progThe Nineteenth-Conjury Novel and its
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00.e0 Droap Doucation ! Educational Re-search in the inner City (D36)

00.40 9 war and Society : Was and the Mend

5.40 An introduction to Melecials: Optical Microscopy (1825); prog d; integrables and Northerd Appears: "Non B a Function Integrable 7 (N1331; prog 5), Titlerential Equations of Applied Multicondits: Boundary Conditions and Property Passed Problems 18321; prog 1).

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Modern art from 1848 to the sent; slyles and noted hearing. The armwings of Soures (All from the sent than the sent the sent than the sent than the sent than the sent tha 7.00 Mess communications and safe The Anchor Hook (DEAM) and Lioments of Missic Circ. A2-11 (plog 2).

Thursday April 21

esperience is that the growth market is with small businesses shich cannot afford their own stuff

delying from consultancy projects.

All consultancy work is channelled his off the deans, and much of it derives initially from contacts developed by the Ilsison services rentioned above.

Liko Sheffield, tha polytechnic's

The state of the s

The result is that the public is that the public is that the public is that the public is the student the student is career by two years at least; Marrie student la delayed in the cree by two years at least; Marry is deprived of her services in two years (and if one can judge delayed acceptantly linguists, this is least toutes offered in polyical courses offered in polyical courses offered in polyical the less man other colleges best more difficult to abtain grants to

Young (construction technology); We read with interest your and interchanged into the interchanged entire range of nolytechnic academic work which covers ant only the traditional engineering and business management fields but such diverse spheres as education, art, design, languages, hatel and catering and social sciences.

Consequently projects are oben undertaken for local nutboritles and government departments as well as industry. Clients benefit from the full range of polytechnic facilities and experise, and staff and students benefit from the axternal contacts and experience gained.

larger market for our services exists and are looking forward to a period of steady exponsion in the near futore. Yours faithfully.

WEATHERLEY, WARNER,

Project Managers, Consultancy Services Organization, Middlesex Polytechnic, Bounds Green Road, London, N11

Surely no system which claims it

wishes to see more students on rucational courses can tolerate auch an mountly. It would seem a fairly simple measure (und une which, I know from alscussions, a number of

l.e.a.s wanth appreciate as a simplification of procedures) to muke the list of designated courses (I e mandatury grunt courses) coincide with the "nilymiced course" pooling list used to determine whother outcumny fees are payable.

I trust that the DES will ropidly seek some method, whether this one or another, to ond the present ridiculous situation.

Yours fulthfully. J. E. G. WHITE, Walyerhampion Polytechnic

Preaching und practice

thu Open University to becume principal of Worcuster College of Higher Education leter this year, I um glad to rual that the Secretary of State hopes to see the area of part-time public sector higher educotim expanding over the next few years. If this hope is not to romain nt the lovel of plety, it will need to he matched with chonged policias by her department.

Among many things needful is to establish the principlo that where eludents ore studying for the same qualification they become equally eligible for grant awards according to their needs. The present oftuation, where Mrs Williams' departotout mandatorily meets 90 per cent of the cosis of awords to atudants taking the more expensive full-time routes and offers no direct ear-

Mrs Williams would be a more persuasive gospeller if she were to Insist that her department practise what she precedes. To chastise the Mrs Williams would be a more

It looks as if a mea cuipa from the Secretary of State would not ba out of place. I hope, that ln all cooscience she will make atonement in less than the 15 to 20 yuars lead time that she sees as a characteristic

Yours sincerely, WALTER JAMES, Dean of Educational Studies. Onan University.

LETTERS TO THE EDITOR Punch below

laught; nor can be have been much very elliciently, since he dld

elsowhere; otherwise he would have discovered that it is not unnsual

It is a pity that he was not better taught, by a more inspiring teacher, since he was evidently quick-witted amough to adopt a thema, and to initate a style, mode popular some 50 years ago by Stephen Leacock; and his memory, even if it has not retained ony of the Greek he was inught, is evidently retentive enough to reproduce a typa of humour thou twas current in Panch in the 1920s.

Should be maintain that Punch in the speculation, it still

community on some modern comic programme on stage or television?

Critics who have remembered more of their Greek than your correspondent have found that modern comodians, from Tommy Hondley onwards, how shown surprising resemblances to the heroes and anti-hernes of Arlatophanes, Yours, II. W. STUBBS, University of Exeter.

Rhetoric support

Sir,—James Porter ("Look back in anger", THES, Morch 4) misaos tho point. Ilis anger is directed of the continued reluctance to make a firm commitment of resources to in-service teacher troining. The problem lies in the fact that the "crucial importance" of such training is supported by no more than vacuous rhetoric. The James report out it supported by hadiy:

vacuous rhetoric. The James renort put it aupremely badly;
"Many teachers at present are outarandingly effective and successful.
... Others ore less fortunate. It is
no occident that teachers in the
formar category tand to be those
who bayo had the benefit of ineervice opportunities..."
There is no evidence whatsoever
to oupport such axtravagant.claims.

marked eupport to students taking the part-time routes, is hardly designed to make the part-time routes attructive.

Mrs. Williams would be a more than the part-time routes attructive.

polytechnics for the disappointing Are the teachers (or the schools, level of expansion in part-time aducation is to bleme them for the motes in their vision, whilst ignoring the beens in Elizabath House.

It looks as if a mea culpa from their viscous are of quite different kinds and eo are the measuree of their viscous and even the vis their successex.

their successes.

Mr Porter appears to rejoice in the absence of "theoretical models or applisticated policy statements" louds our "vigorous pragmatism" and neglects attempts to determine the effactiveness of tradolog. It is precisely this amateur ephroach which is responsible for our failure to make progress.

To present priorities is not difficult. The rether this phisticated statements of Advisory Committee

Modern language

Sir,-While Jane Feinmann's Sir,—White Jane Feinmann's require of my introductory paper to the recent specialist conference at CILT (THES, April 1) clearly brought out some of what I was trying to say, compression and a few inaccuracies might have combined to give the reader a somewhat fals

Certainly, I believe the provision

discovered that it is not unusual for the audience to follow the performance in the text, and that it is not o gross solecism to laugh during the performance of a comedy.

It is a plty that he was not better taught, by a more inspiring teacher.

While my pilet survey mey hove come too early in contain the firmest projectione allout the corly 1980s, in onether acres it may have come too late.

Yours foithfully,

B. G. PALMER, Deputy Principol, Bulmershe College of Nighor Educe

for the Supply and Training of Teachers' in-cervice education and training sub-committee need to be translated into ivell-designed theoretical models, giving rise to pilot achemee which can be evaluated in terms of real outcomes.

Only the development of this kind of systemotic and professional stratogy will lead to residts which can command uttention in the cold common goal,

cao command ultention in the cold climoto of accountability which is now beginning to permeota educanow beginning to per Donal spending. Yours faithfully, EUAN HENDERSON, nstitute of Educational Technology

Testing of entrants,

Open University.

Sir,—The report (THES, April 1) and council's testing of entrants project was misleading in that it conveyed the erroneous impression that the prime purpose of the tests was to investigate the reliability of WATKIN WILLIAMS.

In fect, the first paragraph of our recent press rolessa stated quite explicitly that the tests had been devised "for testing anirent otudents knowledge of the fundamental skills required for successful study of the following subjects of the property of the following subjects. ful study of the following cubjects of university; mathematics, physics, chemiatry, French and Germao and that the main objective was "to obtain data which can be discussed with the schools, the SCE Examination Board, and other interested parties, with a view to remedying, either at school or at university, any major deficiencies in knowledge which that tests bridg out, and so ease the transition of Scottish pupile frum school to university".

A. D. MACKINTOSH,

Secretary, Scottish Universities Council on Entrance, Kinburn House, St Andrews.

courses

of tenchers of modern langauges will have been grovely reduced by the early 1980s unless action is taken soon. However, in trying to establish the facts of the allustion ininght very efficiently, since he did of tenchers of modern languages that learn unything about the first, and learn unything about the first, then learn unything about the first set of the early 1980s, tuless action is taken soon. However, in trying to postablish the facts of the allustion—then projectly the trends through into the carly 1980s, I was ottempting to him to see the Greek Play of Brad, in to any similar performance of an Atle to the soon. However, in trying to taken soon. However, in trying to taken soon. However, in trying to postable the facts of the allustion—then projectly the trends through into taken soon. However, in trying to taken soon.

Inught, is evidently retentive enough to reproduce a typa of humour thois was current in Panch in the 1920s. Should be maintain that Panch in the 1920s. Should be maintain that Panch in the 1920s was, for all its imperfections, vostly mora amusing than it is today. I would be inclined to agree with idm.

An article written by an oldfushioned Philisthau (or perhaps by a don showing on appropriate Socrotic irony in pasing as such?) may well provide light relief in a periodic leed not otherwise remarkable for frivolity. May we hope later to sea similar criticisms of Swan Lake; of some Wagnerion opera; or even of French classical dramo?

But perhaps your contributor may

similor criticisms of Swan Lake; of some Wagnerlon opera; or even of French classicol dramo? Thut perhaps your contributor moy remember some of his school Fronch; or he most way the subject to be rather less hewildered by singe conventions observed in a slightly different kind of non-realistic dramm. Or perhaps he could pruduce some equally winty companies up some modern conic.

Simpler front of French.

Finally, as Ms Felmmann olmost attend, the cituation in UDEs in contrast stoble ("confidence and stobility "was the phrase) and therefore the proportion of graduotes they train may be cover so per control for French.

Finally, as Ms Felmmann olmost attend, the cituation in UDEs in control for French.

Finally, as Ms Felmmann olmost attends to the cituation in UDEs in control for French.

indulged in profligoto opending, and whon die going is rough, as

now, the reaponso is predominantly emotional. At no singo hue higher education been subjected to detalled audios by he leaders, which could provide a fundamentol basis for retional planning by universides Since university authorities have

Professor Dalirendorf - strong

Sir,-Professor Dahrendorf may

know of good reasons to justify his use of such strong words as

"irresponsible", "cynicism" and

"stealth" to describe the way in

which the fees issue has been hundled (THES, March 11). I doubt

howover whether he con absolve

himself entirely from responsibility

for the situotion which be and an increasing number of his fellow

principola and vice-choncellors seem

Could it not be that much of

die moleise that nermentes tho

entira higher educational sactor

orises from the failure of nead mics,

especially ungust bodies such as tha Committee of Vice-Chancollors and

Principuls and the University Grapts

Committee, to take the trouble to dofine the rale of higher education ln socioty and to submit their fludlngs to public dobate?
In Horos of ebundanco we have

now reody to condemu.

Academic awakening

mada such juefficient use of the od hoc responso, we cannot really bo surprised that the students are now adopting o similarly misguidad approach. Perhaps the presant rulnoue state of Universities in terms of public respect, of stoff morale and of oludent idealism, was e prerequisite to on awokening of RCA domics to formulets a more coustructive response, but If es Princi-pal Dahrendorf seemo to imply it is all someone else's fauit, a great opportuoity is again likely to be

Department of Agricultural B University, of Reading.

Just the Job

Sir,-Richard Hoggart asks (THES, March 25): "Why, in the 1960s, did no one insist on eerablishing an laner-city day-student universily" with "much that is distinctive to offer to students, and to the neighbouring community?" They did. They are called polytech-

Yours faithfully. R. A. BARNETT, Administrative Assistant (Admis-Polyrechoic of North London, Holfoway Road, London N7.



Adult education is in a parlous state. I mail authority courses are fewer than they were, and likely to become fewer still, whether as a matter of deliberate policy, or in rogsequence of increases in the fees charged to students. Whenever there is severe restraint upon the funds for the education service, the sharpest cutbacks rome in the area of non-compulsory provision. Section 41 of the 1944 Education Act gives a statutory hasis for "leisorc-time occupation " in "organized cultural training and recreative activities". But, unhapplly, the duty impused by this sertion upon local education amborities is formulated in such general terms as to be virtually un enforceable.

University extramural departments are unlikely to be able to fill the gap. They, too, are under serere conomic pressure. The Secretary of State has recently increased the grant to the Workers' Edurational Association by about £100,000 over and above the £900,000 to which it would have been entitled in any event. But this is to enable tho WEA to shift the emphasis of its work to the "Russell" priority areas of educational disadvantage, ludustrial work, and social and political education. This is a worthy objective, the ottolnment of which will mean that more WEA courses will be relevant to the needs of that mass of the adult population, But there will be no net increase in

deot on the good will of their home least. But all three of these advances were made on a narrow front, and ere of little value to the general run of adult learners.

Mature students on degree courses are also in a better position now than they were a few years ogo. Most of those admitted to a full-time course receive, by virtue of the 1975 Education Act, a mandetery every large to the contribute. mandotory eword. In the part-tipe field, the Open University has so far been slicitered against the worst severities of the economic blizzard. Student fees thoro hove increosad pari passu with inflation, but demand remains at e high level. But all of this is small comfort to those

Nor do wa soem to ba making Nor do wa soem to be making progress towords any general system of educational leave of ebscace from employment. The French lagisleted for a general right to paid educational leave in 1971 (and the Swodes in 1976). Admittedly, the French have a habit of legislating first, and devising means of implementing the legislation afterwords. But we have neither lagislated nor made any significant non-statutory made any significant non-stotutory arrangements. Most disappointing of all has been the history of inservice education and training for toechers.

Tha recommendation of the James Report that reachers should enjoy o right to paid educational leeve, and the commitment to INSET mede in tha 1972 White Paper, Education—a Francework for Expansion, with an ultimate right to one tarm in each seven years tway from the classroom, could be seen as the horbinger of a new reducational nra. If it was desirable that takeners should enjoy e right that feachers should enjoy e right to periods eway from work, devotad to the refurbishmant and development of their professional skills, could not the same case ba mada with agual force for those in other professions and career structuras?

Five years later, the ecademic staff of universities remain, as they have long remained, the ooly profession with n general right to educational leevo of ebsance ("sabbatical leevo"). Short courses for teschers, and achnol-based trellning, have developed space. But next year's Loa estimates show e raduction rather then an increase in the suma evallebla for full-time sacond ment, despite the urgings and likely to go to the most promising likely to go to the most promising examination candidates. Here is contained by a diminution in the aducational opportunities open to its most talented members. That dose most restricted to, or even concantrated within, the immediate post-school within, the immediate post-school within the school system, resqueres are likely to be concentrated most heavily at the upper end, the sixth form, and below it that fourth and fifth years. Within those yeors the larger share is likely to go to the most promising examination candidates. Here is calculated by a diminution in the aducational opportunities open to its most promising that the professional opportunities open to its most alented members. That dose opportunities open to its most allented members. That dose opportunities open to its most alented members. The data development the bellef thet those opportunities opportun ment, despite the urgings and pleadings of the Secretary of State.

Against this gloomy backdoop there strode onto the educational stage none other than the Prime learning process, aspecially lo the Minister, to ennounce the incaption of a greet debata. Ha chose to

Gerry Fowler, MP, explains his programme for the future of adult and continuing education



Agenda for better days

shrines of adult education in Britain.
Ironicelly, the "great ilebate" is
concerned almost exclusively with
the schools, and their role in servicing socioty. Decades of increased educational investment have not meant that all school leavers attain desirable standards of literacy and unneracy. (The standards, although the based of the standards of the st there will be no net increase in overell provision.

In recent years money has been found for the adult literacy programme, the volue of which lay not least in the release of enthusiasm and energy of voluntary workers that it made possible. The TUC now receives ald for the sponsorable of trade union studies. Studenta at the long-tarm adult residential colloges receive grants as of right, and are no longer dependent on the good will of their home

There is of course an alternallye model. It is at least worth ssking whether further substantial educational advance can only come from investment in a continuing or re-current system of education and training. The potential of the "end-on-to-life" model may be neering exhaustion.

reering exhaustion.

First, thoro is n pattern of resource disribution which is almost inescapable with the treditional model. It is impleusible to suggest that compulsory full-time education for oil should be extended beyond the ege of 16. So those who remain within the system after that ago attract to themselves e greeter shore of avoilable resources than those who icova it, and the langer they remain, the greater their share.

Further, the cost of each student Further, the cost of each student yoar of full-lime education bayond 16 increases steeply, culminating in an overage recurrent cost of over £2,000 par annum for cach full-time E2,000 par annum for cach full-time degree student; or over £4,000 if eapital costs are emortized and included in the calculation. Thus, axpenditura is concentrated most heavily upon the most abla and often on the most advantaged.

For this very reason, it used to be fashionable a few years age to ergua that reasources should be switched from higher to nursery educarion. But even if it were not the most eble and advantaged children who have in general benefited most from nursary education, this method of tinkaring with the traditional model is unlikely to produce the desired result. Even if a straightforward reduction have the the desired result. Even it a straightforward reduction in the resources
evailable for post-school education
were socially end politically acceptable, its, its post-obvious that the
mation's best interests would be the need to dayalog a system of
served by a disclusion in the educanticular advances a system of

those years the largar share is ilkely to go to the most promising examination candidates. Here is one major reason for the continue under-achievement of many public

success. The obolition of sclection at 11 delays the operation of this law, and it is in any case not universal in application; but it remains

Second, under-achievement is ex-acerbated by an awareness among many pupils of their poor life chances. This effect can be seen very clearly at present, when more than a quarter of a million 16 to 19year-olds are unemployed, end not undergoing any form of further education and training. If a pupil is aware that he is simost inevitably destined to join that same ably destined to join that same sad army of the streets, he has little motivation to apply himself to the school curriculum. The remody lies not only in employment, but also in further education and training policies,

Third, the same phenomenon high youth unemployment gives the lie to the notion that a principal function uf the schools is preparation for work. Whot work? This is not to argue that the schools connot give some insight into the world of work or develop come undernot give some insight into the world of wnrk, or develop some understanding of the place of weelth-creating activities in the economy (as the phreae now hos it). But the schools cannot ond nover could give adequote preparation for specific types of employment. They are concerned with the development of the individual, not simply with servicing employing agencies.

Fourth, the debate about a "core curriculum" in the schools makes acuse only in the context of cootinued education or training. (These lost two terms are not distinct in mauning, but I shall follow the convention of using them both when one would do.) This is apparent if we consider a core curriculum which once existed, for a minority of secondery pupils, namely matriculation gained on the basis of credits in defined subjects in the school cartificate. This was gaared entirely tificate. This was gaared entirely to an external objective—university to an external objective—university entranca. As soon as we say that the schools shall remoin for many the terminal point of education, and must therafora prepare them for a wide variety of jobs and life-stylas, "core" studies must be whittled down to a narrow spread of basic akills and knowledge, in order to psrmit the inclusion in the curriculum of enough subjects specific to the individual's needs.

do it at Ruskin College, one of the fewer, not more, calucational reshrines of adult education in Britain, sources devoted to them than their ironicelly, the "great debate" is contemporaries who enjoyed early total time available for leisure and

National Development Council for Adult Education. But government fought shy of implementing this central recommendation. Russell had reported of the mament when economic gloom turned to long-rusolng erist; a dovalopment council—not least because of the implications of the word "dovelopment" demanding the commitment of resources which were not uvailable in the forescoobla future.

After cloud cuckoo land

When I was Minister of State for Education in 1974 I begon to explore e more limited proposal: that there should he a council, initially with advisory functions only, based upon and serviced by one of the existing adult education agencies. The Netional Institute for Adult Education seemed the obvious choice, since it is more widely representativa than any other adult education organization. I left the department efter the October, 1974, election; when I returned 16 months later I discovered that no further progress had been made. Moonwhile, morale in adult education had plummatted.

ment projects. But the he like idea of a 'teaching company' has been proposed by the Science Re carch k is get the course incompany in a Second to Second the second to th foundil. Professor J. J. Sparkes believes a prototype already exists Even if it is serviced by it is imperative that the should not be seen as un

Britain's biggest untapped source of scientists and engineers

the representation of conserved well as inf providers. Clear the third report from the parliable and the CBI should be sentary select committee on science and the CBI should be sentary select committee University well-organized consumer substantial education of qualified

Nur con the present education of qualified passibly a sommon substantial passibly as sommon substantial passibly as some substantial passibl Nor can the council receivists and recommends a number of developments. Although the precisely, it demands about 12 hours work per oversely, it demands abou

Agency of the Manpowers of the Open University

ter days

I reoccompanied by a diminution of the their labour element in production. The sarry total time available for leisure and ston recreation aust Increase. (How Ic.) is a separate policy question.) In this provinced between fundividuals is units a separate policy question.) In this continuous production, and in separate policy question.) In this units of society—the workplace of the constitution and re-education.

We constantly discuss the continuous of society—the workplace for the collection and training flow the study in the testernitation of the collection and training flow the study in the testernitation of the labour elements to the collection and training flow the study that the collection and re-education.

We constantly discuss the continuous the continuous flow of the labour thing in the determination of the collection and training flow the study provided by diverse bodies, and the supplies to first the supplies to first the supplies that the collection is to the collection and training of supplies to first and the supplies to the supplies to the supplies to industry, and supplies the supplies the supplies the su

The new countle will get a subject areas.

The new countle the best wish to exomine the best wis

Otturio and Alberta, both presented in the early year and conditions. As it impouns, decada.

The list does not end that some studies in the United Kingwising a system for the some dath makes a review difficult tion of students within a review occo of students within a review of learning, and the state of flux but olso because expential to the needs of the students but of the content of learning, and the state of flux but olso because expential to the needs of the state of the content of the cont

the representation of conservation of conserva "While employers report that the top strain of QSEs is still of excel-

vant to industry and to professiona

engineering in general The scale of the Open University's activities is sufficient in make considerable impact upon the over-ull unitonal provision. The number of students taking technology courses is best expressed in terms of student-FCEs. An FCE is on abbreviation for full redit-equivalent. So a student taking one fulleredit course counts us one student-FCE. A student taking a half credit counts as a half student-FCE, and a student toking the maximum per-mitted in any one year, two credits, counts as two student-PCEs,

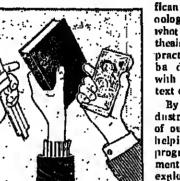
ing technology rourses in 1972 the number of student-FCEs has increased from 4,809 in 8,401 in 1976. If students studying for hunnurs degrees study at a higher than overage rate (and take, say, six years to graduate, starting from scratch) and if half of the students have the goal of honours graduation in view, the annual nutree of such graduates is likely soon to be in the region of 500-1,000, as com-pared with about 10,000 in 1974 from all other universities and poly-

mal oniversity preparation of quali-fied scientists and engineers (QSEst.

ring the stuge it which students can select a coherent set of credits largely from the courses offered by the facelity of technology, supported by appropriate entries from science, mathematics, social science, etc., which are highly rale-to-industry and to expression;

Since the university began affer-

lent culibre, they indicate with dis-turbing frequency that there is a growing proportion of those with The university is now approach is illustrated in terms of such fac-



Engineering and Industry

Those who know the Open University students, all of whom are adults over 21, will affirm their personal motivation and professional

municote in writing in the regular ment of a variety of communication skills which mny well meet the comnients of the Confederation of British Industry.

However, perhaps the most significant point about many of the techcology courses is that they achieve whot we believe to be a new syntheais of the theoreticol and the practicol. Many of them can bast ba described as being concerned with teaching technology in the context of design. By involving those working in in-

dustry in the writing ond ussessing of our correspondence texts and in helping with television and radio programmes (we filmed the lustrumentotion of Plixborough before its explosion), by releting theoretical explosion), by releting theoretical explosion of industrial managemalysis to the solving of real industrial management and technological decision printly based problems, and by exposing the complexity of even the most straightforward design tusks, we believe we are prepuring stu-dents for the kind of problem solv-ing the CBI demands. A further comment, quoted in the report, mada cummiment is quite outstanding. If manneer, expresses mure exactly the tiley aced close personal super-situation which we are trying to vision duey cannot succeed with rectify. He says; "Moro and more Open University courses, The choice afferred in router provision encourages though dues and enforce ing the fundate and the principles,

but they do not have an inclusional ing of what is taking place." The report also refers to the reaching company proposed by the third SRC report. This proposed that "selected, well-managed and successful manadacturing firms should, in partnership with oniver-sity and polytechnic departments, become teaching companies". Again it has to be said that the Open Uni-"academic apprenticeship" a much simpler scheme to organize than collaborating with institutions whose teaching depends on face-toface contact hetween dans and in

Open University courses, which already articulate the relationship hetween arademic material and industrial work, can provide, part time and largely home based, the kind of support that industrial firms require in taking on these new trainees. Indeed, the fact that many hundreds of Open University students are studying relevents. auborission of ossignments through-om ell courses demands the developwork in Industry, often with their employers' apprort and ancourage-ment, suggests that the concept of the teaching cumpany—or some-thing very close to it—already

Finally, let me add that the OU courses in technology, all of which have external examinors of high standing in the ucademic world, dunot simply deal with topics such es mathematics, electronics, mechanics, letteronics, letteronics, mechanics, letteronics, l mattematics, electronics, mechanics, lustrumentation, the digital computer, desigo, communication systems, morentals under strass, etc, which often form the core topics of engineering degrees. They olso cover the broader isaues of design, of systems behaviour and systems management, and supportunital control etc. uf environmental control, etc. These topics are oil related to the concept

It seems strange that the newest university in the country, which was established by Herold Wilson when he was priote minister, and which is dealing constructively with many of the problems raised by the parling the problems raised by the parling that the problems are the constructive to the parling that the problems are the constructive to the parling that the problems are the constructive to the parling that the problems are the constructive to the parling that the parling th montary select committee, should be wholly ignored in the committee's

The author is dean and director of studies in technology at the Open

sume impuct on the general education of sciontists. In this case, It In the meantime, sputnik had been launched and the feer that this englneering four generated gave a new.

akilis and knowledge, in order to parmit he included in the calculation in the case of the

the histury and philosophy of ties in most constrict over the years logical cammuolities in our society, science and many universities 1968-72. Many scientists, among the need to educate scientists and set up new departments with others, become concerned about ongineers about the social context of their subject is more preasing. But adverse effects of science on society. adverse effects of science on acciety. The linking of the scientific comoppears that, fullnising the rules of the ocadomic game, most of theso departments became excellent centres of research but made little impact on undergradunte curricula. In the meantime, sputnik had been

fears of nuemployment among stu-dents have had the effect of making moiversities more conservative and the graduotes more security-

One consequence of this has been impact on indergradunte curricula. To be rritical about the role of science and rechnology in society. Courses based on this idea sought to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create a naw type of science greduates in straight to create and polytechnics are best content of most university selence application, to the insense of failing and after a few years of failing society. The dayslopment of versions in science applications in science were only society. The dayslopment of versions in science appropriate to ask at this time:

By the mid-1960s, however, a new the first the science are best of the first the science and rechnology in society.

Courses based on this idea sought to create a naw type of science greduates in straight to create a naw type of science greduates and polytechnics are best equipped to offer the society. The dayslopment of versions in science and rechnology in society.

Solution of the first that the science greduates in straight to create a naw type of science greduates and polytechnics are best equipped to offer the society. The dayslopment of versions in science greduates and polytechnics are best equipped to offer the society. The dayslopment of versions and after a few years of failing and after a few years of failin

Third, those interested in science studies have found a form of solidority in the Science in its Social Coutoxt project: SISCON, Funded initially by the Nuffield Foundation and currently by the Leverbulme Trust, this organization provides both an essential framework for the preparation, and dissentiation of teoching moterials and opportunities to discuss ospecies of teaching practo discuss ospecie of teaching prac-tice. Such activities are vital for rice. Such activities are vital for rice future of science studies and it is due largely to the existence of SISCON that teachers from Wastern Europe, Canoda and the United States as well as the United Kingdom have been able to meet and exchange ideas.



shadowed by men of mixed institu-tions, both at student and teacher level. The best jubs will go to mala acodemics, and men will tend to

lominate student gavernment and

Women's groups have pointed to

the social and institutional support which all-women colleges give women, and research tends to bear

this nut. A study last year found, for exomple, that the "seven sisters" colleges have since the First World Wor been the institu-

tions sending tha highest proportion of women graduates on to post-gradueto study.

The study published in the magazine Science said: "A fovour-

and capable is one that conveys to them o seasa of being in an on-vironment where there are many

other women seriously involved in

At o conference last mouth on the future of Barnord held at the

tha futility of Barnord held at the inaughtration of the new president, Dr Jucquelyn Mattield, students expressed the same conclusion. A student from Whenton, a smull women's collega, soid: "This is a period in which o woman must establish her identity. A womun's institution gives her the supportive

o variety of ocudentle pursuits."

discussions in class

National university

and finouriolly-pressed women's col-leges? Should they carry on as

single-sex instintions, go coeduca-tional, or morge with neighbouring mule colleges and universities?

The question has become acute

os more and more women's colleges are being forced by dwindling encolmants and soaring costs to toke a hard look of thair futures. In many ways their dilemma is like that of black collegao: tha more apportunities there are in the mainstream of public and private institutions, the greater the competition to restudents an dienchers at all-black culleges. And in spite of a general desire to keep a placa for collegas which have traditionally done so much for the education of blacks or women, charges of segregation can now be thrown bock at thom.

In recent months the issue has surfaced at a number of well-known institutions. A small prestigious wooten's college in New York, Brian-

wooten's college in New York, Brlancliff, has been forced, through falling eurolment, to consider a toke-over by Pace University. A bitter feud broka out in Pennsylvania between Bryn Mmyr and Haverford, a small men's Qunker collega which wanted to go coedurational. And in New York one of the most vexed questions of all is whether Columbia University, the only remaining all-mole institution among the Ivy League universities, should inerge with its "eister." Barnard College, In most cases the monor's col

In most cases the women's colleges are opposed to mergers which would inevitably swamp them, ond see not happy with the opening of nearby prestigious men's colleges. But many women's colleges have little choice, Studies have shown

that amel private colleges ore those in greatest financial dan-

ger; and single-sex institutions ore of an added disadvantage,

Muny ure looking to the lead of the "seven sisters"—the seven moot femous privots women's collages: Barnard, Bryn Mnwr, Moutte Holyske, Rudcliffe, Smith, Vassar and Wellesley, Of these only Vasset hos gone coeducational, and the expedience the sevent and wellesley.

experieuco there has not persuniled the others to follow suit.

Tel.: (202) 638 6765

Students 'need to know more about costs'

A seven-state survey of mure then 1,900 prospective college arudems nd that students want much more, and more detailed, informotion about college costs and finan-cial oid than they have been get-ting. More than holf of them pertont, and "Latine" students believe such information would from year to year os most import-change their minutes obout the type

of college they select.
The aludy found that low-income particulor want better obout costs and aid. The lack of it was so serious as to roquire a national information

Prospective atudents in California, Illinola, Massechusetts, Michigan, Ohio, Oragon and Virginio were esked how more information might change their college plans, and how they would rote 14 kinds of cost and ald information.

ond aid information.

Half of the respondents sold they planned to attend o four-year public college, 38 per cent a community college, and 11 per cont a private college; three times us many high-income students planned to ottend private lustimations as did low-income students.

Howevec, 57 per cent of the students oaid they believed they would change their minds about the kind of college they would attend if they had more information about costs and financial aid at other types of colleges. This belief appeared at all income levels — 38 per cent of upperdacome, 57 per cent of middle-income, and 71 per cent of low-income students. In addition, over half of the students planning to attend community colleges said they would prefer a four-year college, if costs were not a factor.

Student interest in almost any

oblity of changes in cost from year to year (65.3 per cent).

Black and white students ranked total degree cost end tha "how and

Based on their own ond others' experiences, the study porticipants suggested several reasons why sume colleges and universities did not give students enough information. In some rases colleges may believe that relling students tha truth about their costs would scare them eway oid programmes is too complicated to be touthfully communicated to

students.
The college's financial sid odininistrator may lack the necessary communication skills, or be called thou to relay policies that are themselves muddled, in some cases a college may deliberately withhold cost and sid information as a way of limiting institutional growth or because of statements. because aid officero ara under-staffed.

Income students.

However, 57 per cent of the students oaid they believed they would chango their minds about the kind of collego they would attend if they had more information about the kind of information. S7 per cent of upper-income, S7 per cent of low-income students. In eddition, over half of the students planning to attend community colleges said they would prefer e four-year collage, if costs were not e factor.

Student interest in almoat eny kind of information increased esfamily locome decreased. For ell student interest in almoat eny family locome decreased. For ell student policies, costs of elected information system suggested in the roport, students end parents would receive information in two stages; of unith grade level (ags 15) they would get accuse the local costs of the economic investment-return ratio of a college education es opposed to other forms of post-sacondary activity; and tha probthe others to follow suit.

Theco colleges are increasing thoir ocodamic contacts with neighbouring nten's colleges, and many alists administratire and admissions procodures. Radeliffo la closely intertwined with Harvard, Bornerd is already close to Columbia, though consisting further blomilishments.

But change has been pronounced in the equivalent men's collegas, the prestigious Ivy Leogue, comprising Brown, Cornell, the University of Panosylvaola, Columbia, Dartmouth, Harvard, Princeton and Yola. All axcept Celumbia now admit women to the extent that Brown (in Rhoda Island) has antiraly swallowed up Pambroke, its sister institution.

Many of thesa men's universities

New body to be set up after controversial Quebec strikes

In the weke of the avo longest money it should have according to university strikes on record in what it saw as the relevance of the North Americe—at Laval University

Institution gives her the supportive are becoming lass and to environment of different types of vomett., and rola models in the faculty. It gives her more time. In a coed institution sho has so are going elsewhere.

Slugio university". The tyell-known

hove probably been si

ment to ollow than to see small decominational it

institutions, often io t

unly are they too see high overhead costs of t

As the women's movement gradually makes headway in the stringle for equal appartimity for wamen students and teachers in America's rolleges and universities, a trouble-some question arises: what should be done with the small, prestigious elinose hetween being s ke being accomplished, in 1, lustitution sho can do but calleges. It was not always easy for them: Princeton, for example, had a tungh fight with its powerful alumn) ussaelation which opposed the change—a fight that is still complicating its relations with alumnia. A student from emphasized the difficulti to college with men, es institution that retain administration though teachers and classes with She sald Harvard had the bunner for words. The main revsum given by the opposition was that unless the nuiversity doubled in size immediately, the banner for women's The competing claims portive environment is and an end to discriming the admission of women would decrease the number of places ovailable for men-which it lins.
But women's colleges oppose cosex segregation has difficult questions. Bry strongly opposed to education on more than just eco-nomic grounds. There is a foeling that women will inevitably be over-

wanted to admit women k what they relied the e-cthical ocomply in a & stitution of any polly a criminates ogainst wo Haverford's board fine n plan to become fully cold and the college presiding and the college presiding tory for Bryn Marr, which anxious to avoid the key dis

Latin America.

Ona of the chief problems, Dr Soberou pointed out, is bruadening opportunities for on adequate higher eduration fur all who require or desiro a career. To this end UNAM is broadening its decentralization programme and building more edutational facilities oway from the maio tampus, which was dedicated in 1952 for on estimated enrolment of 50,000 students. The student population has nuchrnoused to over 250,000 and this year is expected to axceed 300,000.

Decentrolization has already portant recruiting fearewith Haverford and a growth Haverford and a growth women's environment.

Dr Matufield at Barnedinined that her college this merged with Columbia. cyllling to increase and operation and the joint many courses. But she though all universities through a difficult to

Decentrolization has already resulted in the opening of three UNAM branches in outlying areas of Maxico City, and this programme

First degree

for colleges

breakthrough

stitutions of higher educorlun that o not engago in rescorch. This

faces budget pinch MEXICO CITY timonsly opening all over the

De Gaillerum Soberon, who has successfully won confirmation as the dean of the National University of Mexica (UNAM) for four more channel future students to farilities in the provinces is also to be launched. The university is also trooking to help students select careers other than the traditionally monular medicine has observed which the provinces in the remaining that mannel work be upgraded, both socially and financially monular medicine has observed which he termited in seek a quiyears, is toking steps to make major chauges.

The national hudget for this year is a record 5.8 billian pesos (£15thm) but Dr Saberun warded that UNAM will continue to have difficulty meeting ever-increasing payruls and religibly competitive market.

pearch hudgets.

Fands for technological, medical, sclonific, goological and sociological research will suffer, and Dr Soberon stressed that "displie support from the government and private organizations, our research budget is more still little more than 200 persos the government and private organizations, our research budget is more still little more than 200 persos impose a sliding scale so that students from twealthy families would pay higher tuiton fees have been unsuccessful. Dr Soberon and other members of the odministrative infaller.

The problem of low tuiton fees for a universal one for educational to is a universal one for educational. But the main problem for UNAM.

The problem of low tuition fees is a universal one for edurational institutions throughout Latin America. Several enumerics have universities where governments But in thost countries finoncing is as udverse and chuotle as in Mexico.

Linin American educators, with Dr Soberon as a unior voice among them, argue that universities should be the "conscience" of nations and should be nulfied thorughout the

Tulk of unification has been going Decentrolization has already resulted in the opening of three UNAM branches in oudging areas of Maxico City, and this programme is to be expanded.

"Undergraduates must be made twars of the fact that bigher education is not limited to UNAM," Dr. Soberon said, "and that good education in the fact that must governments of the area allow universities to exist but not to develop.

Spreading the joys of manual labour

would be rempted to seek a quiversity education. The proposals have been promp-

ted by Italy's massive graduate unemployment, Frustration and hitterness among students has provided serious outbursts of violence und

the dwindling number of job oppor-tunities for graduates have crented tunifles for graduates have created a large pool—no one knows exactly how blg—of degree holders with few employment prospects.

Most of today's students will be forced in take jobs well below their qualifications and many will not find work of all. In practical terms it is easier to find a job without a degree than with one.

The Prime Minister Signer Girllo

The Prime Minister, Signor Giullo Andrentti, told o conference on youth employment recently that it

the degree". He took up a suggestion mad curlier at the same conference by a leading sociologist, Professor Fran-cesen Alberian, that manual work be better paid and given greater

thlicrs, however, point out that oll this is more easily soid than do te. Professor Glorgio Teere, dean of Rome University's science faculty

Top-level bodies in two west European countries have called for major changes in medical education

West Germans want more unified training

Medical education in the Federal Republic has been subjected to con-siderable criticism in recent years. The traditional division of two years' practical education fullowed by four practical education fullowed by four years' clinical training tyrior to further specialization), together with the content of these programmes, and the organization of medical faculties and university hospituls, have all come under scrattny.

the psychological fuel for the because medicine is the most overserious outbursts of violence und lestruction of the past few weeks.

Unrestricted university intake and the dwindling number of job opporond many applicants had alros been waiting for saveral years.

This situation exists despite the provision of thousands of additional places at existing universities and the creation of sevaral enticely new medical schools. There are now altogether 28 medical schools, there offering any chicken and two allusers. affering pre-clinical and two elluica facilities only.

Now the Wissenschoftsrat (Council for Art and Sciences), the gov-arnment's higher education advisory body, has drawn up recommenda-tions "relating to the aims, organiz-ation ond exponsion of medical schools". The Council assumes that in view of the present number of first-yeor medicol students there will be un shartage of doctors in future, nor does it expect medical graduate unemployment,

The recommendations examine all possible selection procedures for industrian to medical courses, ranging from the bosle Abitur quolification to odilitional tests and exominnilous, a probationary period at unit in the West Germon versity, practicul work or interclews. They conclude that as yet it is not nossible to decide which of these nethods offers the best long-term solution. They advocate parollel trials of all the entry procedures; if none works and a weighted lottery should be considered.

One theme running through the recommendations is the need for a closer relationship between the training of dortors, at least of the clinited stage, and incdiced research on the one hand, mul medical care fur the hospital patient on the other. This the Council says the number of student places must be primorily determined by the number of patients available for training

It further recommends a reform

medical training involves work will patients, and then usually only in specialist university hospitals. Students often neither see coough of the ordinary hospital patient, nor have enough apportunity to particle pate directly and actively in medical

ler structure for university haspi-tals, the smallest unit being a de-partment comprising of between 80 and 100 hospital bads. It suggests two different organizational models, both designed to neltisve better co-ardination ond collaboration of disciplines and more efficient ad-ministration at the top. To this end it makes o clear distinction between sides of running a hospital—some thing not often done at present in Germon hospitals.

The Council comes down firmly in favour of retaining medical facultice and university hospitals within the ovecall university structuce, rother than separating them from the universities as had been proposed. This would have meant a transfer af responsibility for university medicine from the Land Ministry of Education to the Land Ministry of Health, and this the Council tejects. Nevertheiess, it advocates much

Nevertheiess, it ndvocotes much closer enliaboration by the universities, medical teaching and research units with the hospitals of the region, which would assume the function of teaching hospitals. Such penposals are highly controvership in the West Germen non-State hospital service context.

They seem to have borne fruit in Northrhein-Westphalia where the new University of Bochum, which hitherto provided pre-clinical focilities only, will be the first one to introduce for a 10-year trial period such an arrangement. Instead of such an arrangomant. Insteed of building a new milyersity hospital, three existing haspitals will from October accept 150 clinical students numually, thus creating a total of 450 nullthound clinical places for the university's three-year clinical tinhi

Under the ogreement the Land government will provide the oddi-tional resources needed for teaching and research, and the souler etoff of these hospitals will become tem-parary university teachers.

French commission calls for tightening up of selection

In addition, the immigration authorities have recently decided to han foreign students frum taking summer jobs in Styden. Numbers conding to Sweden to work between mid-May and mid-Ocinber hove increased ransiderably in the just two years with 17,000 entering the country last summer—mora than half of those from Poland.

The reformed edulasions system due to enoie into force this summer oliums 10 per cent of plocos on eny one course to be ollocated to foreign students based on the generol principle that all those qualified to enter higher education in their own rountry could do so in Sweden.

However, admissions in the past decade have risea five-fold and the authorities want to make it compul-Sweeping changes are proposed for medical education in o report recently submitted to the govern-

meot.

Among the more daring recommendations of the Fougare Commission, set up to review training methods for medical students, ere stiffer selection of opplicants, the creation of special courses for future general practitioners and the abolition of internalips.

If accepted, this will result in a reduction of about 50 per cent in the number of first-year students encolled in medicine. Currontly, there are around 25,000 first-year medical students.

Although pre-clinical training remains unoltered, the commission recommended that, even at this early stage, students should be familiar with hospitel emditions and proctice. There should be more contact with patients during the flust two years, rother than exclusively theoretical teaching.

Clinical training—table lasts four

theoretical teaching.
Clinical training—which lasts four years in France—should be more flexible and include more optional courses, the report argues. Additional weight should be placed on preventative medicino and health

Significant changes ore also fure-seen in the training of specialists

medical students.

Traditionelly, medical fecultias in France have operated a numerus clausus at the epd of the first year through o competitive antry axomination. This will not change. However, additional restrictions will be placed on the type of qualificatione for entering medical faculties directly from school.

The effect of thie two-tier system of selection will be to reduce that commission proposes bringing these two methods together. The future training of opecialists will be hospital-based with seminars carried out within a university framawork.

of selection will be to reduce that number of doctors emerging from universities to around 5,000 a yearo reduction of a third from the present level. Of these, 4,000 will be general practitioners and the problems of general practica and the training of might-level consultants, the commission went wail beyond its remit and suggested substantial changes of all levels of the medical syllabua.

HEW Secretary takes back 'admission by quota' remark

Drop forecast in English-speaking

National Student (best and masters) degrees.

The Jerusalem Collega of Technology and institution for male and institution for male and the shenkar College of Pashlon and sextediation end authorization to name. The Council is heving difficulty in flading an "cquel but them, one that will not create the segments."

At the same time, the University of Cape Town's vice-chancellor, Sir of Ca

less and a university—the Academy

Missic and the Academy of Arts

the prospect of increased censorship

the prospect of increased censorship

Republic of Ireland

world of business from John Horgan

Scientists of Trinity College, Dublin,

be covered by the college, together with both the Industrial Davelopment Authority and the Notional Science Council, Representatives of each of those organizations are included on its menogement com-

mittee.

Key orans of ectivity for tha group—to be known as the TCD Applied Research and Consultancy Group—will, be the development of specialized instrumentation systems, computer applications in financial plsoning in medicine and business, and onviconmental monitoring in oil

美国人名英格兰 经产品

In the wake of the two longest university strikes on record in Morth America—at Laval University of Quobec to Morth America—at Laval University of Morth America—at Laval University Greats Committee—at the Morth America—at Laval University of College America—at Lava

Pennsylvanio University; all lvy League Institutes but one Be

Call for better deal for

overseas students

from Mike Duckenfield

STOCKHOLM from our correspondent

JERUSALEM
The Council for Higher Education has made history by granting three tracher troluing enlieges (out of about 60) permits or Hechses as institutions of history dependent of the first institute, in government of the first institute, in the stitutions of history dependent that the stitutions of history dependent that the stitutions of history dependent in the stitutions of history advantages the average also sentent in the stitutions of the first institute. bursos the awards, also wants to in-crease the number of schularships

do not engago in rescorch. This permit is the first of three stoges in a process which leads to recognition at an institution and finely to such distribution to award the first academic degree.

The teacher troluing colleges will award the degree of BEd, o degree that is "equal to but different from" the BA or BSc, which the council wishes to reserve for universities only. The BEd will, it is

lities only. The BEd will, it is hoped, attract equal salarles to the South Africa. BA, or BSc, but it in different from hese degrees in that it is a terminal Campus papers face Scientists woo The Council only reluctantly fresh curbs

tranted cecognition to two institutions somewhere in between a col-

authorities want to make it compul-sory for foreign students to obtain residence permits before entering Sweden and in guarantes that they will leave the country on comple-tion of their studies.

the prospect of increased consorsing this year—from the university onthorition themselves.

Already three student newspapers with different degrees of Bachelor of Plas Arts (BFA) and Bachalor log, so far in vain, for authorization award masters degrees.

The Jerusalem College of Took increased consorsing scientists of Trinity College, Dublin, last week took of firm step into this year—from the university onthorition themselves.

Already three student newspapers and the Notional Union of Snuth Africon Students' paper National Student (besed at Cape to award masters' degrees.

The Jerusalem College of Took increased consorsing scientists of Trinity College, Dublin, last week took of firm step into the open market-place with an aunouncament that a new team hes been set up within the college to actively seek applied research and development contracts with outside bodies.

The Jerusalem College of Took increased consorsing scientists of Trinity College, Dublin, last week took of firm step into the open market-place with an aunouncament that a new team hes actively seek applied research and development contracts with outside bodies.

The Jerusalem College of Took increased consorsing the prospect of increased censorsing step into the open market-place with an aunouncament that a new team hes actively seek applied research and development contracts with outside bodies.



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After the tidal wave, a chance for recurrent education

A greet demographic titlal wave has been sweeping through higher education in the last 15 years. It reached its first peak in the early 1960s when those born immediately after the war became old coough after the war became one congu-to attend university or college, and it will reach a second in the early 1980s when their children in turn leave school. Then it will die nway, duickly and investeriously, leaving only the debris of expansion flour-consumers of adoli chicarlan.

These masses that passed through higher education between 1960 and 1933 will not, of course, disappear — except from the educationol statistics. They will simply grow slowly older, through potenthood, middle age and retirement. They will have been expelled from the Eden of formal education, half at the age of 16, another third at 18, and the fortunate few remaining by 22 (except for those who minance to land the increasingly rare jobs as gardeners).

us gardeners).
Thor penrly all the public resources allocated to education should be devoted to the benefit of such a norrow ege hand has never seemed strauge. After ell, outside primitire societies where a division of lobour, intellectual or otherwise, has never been experiotherwise, has never theen experienced nor a separation between learning and tloing, the formal process of education has always been associated with odolescence and early adultitood. In particular it has never asemed luappropriate in a society which contained a high proportion of young people in its population, as Britain ind for the 30 years following the war, ladeed the "bulge" may have intensified the obsession of schools, college, and universities with the state of the st

of course, fear that it may be overcorrected aed that universities end
polytecholes will find it difficult to
maintain their prasent full-tima
atude t numbers without a deterioration in standards. This le almoet
certainly too gloomy a view, alleavers who have gone on to obtain
higher qualifications in further
source of polytechnic atudents) and
older students (the constituency
revealed by tha great success of the
Open University) are likely to become mare significant groups enterincomment of the possibility or more extendtype leaves.

The rhird need is the most
type leaves.

The rhird need is the most
type leaves.

The rhird need is the most
type leaves.

The rhird need is the most
limportant of all; It is for education
for participation. The old authoritation in the hone, are
erumbling. In the short term they
may have been readed by the more
vigorous exercise of trade the constituency
politics, eod individual slianation.
But to the longer tarm o new and
mora democratic social coessessus
may ariso in the formation of which
recurrent education can play e
cruciel role. Parliaps it is not an
cxaggeration to euggest that the role
of recurrent education in the birth
of social end industried democracy Open University) are likely to be-come more significant groups enter-ing higher education es a whole.

subtle shift:

But demographic decline is likely to have a more fundamental if less tenigible, effect on universities and polytecheles. It will swiftly cure them of any over-commitment to formal, usually full time, courses for the young, and subtly shift their orientation in fevour of less formal perhaps part-time, courses for the adult learner. This point has been mode recently by a former university vice-chancelior and a present polytechic director. Professor Elfyn Richards told tha confarence of university convocatione them colleges of education, and more widely on the public sector of higher education as o whole, has important implications for recurrent education. The training laviathan is not seen in swerable to the DES formal, usually full-time, courses for the young, and subtity shift their orientation in fevour of less formal perhaps part-time, courses for the adult learner. This point has been metadation four years ago that development council for adult education should be established. Nor does the DES appear to recognish you a former universe of university convocatione that its polloy on the future of the collinguage of education, and more continuing education would be a growth erea in universities in that is polloy on the future of the collinguage of education, and work is or lending that is only the continuing education would be a growth erea in universities in that is polloy on the future of the collinguage of education. The training laviation is not even answered to nother continuing education would be a growth erea in universities in that into some configuration and the continuing education would be a continuing education would be a growth erea in universities in that into some configuration. The training laviation is not even answered to the continuing education would be a continuing education would be a growth erea in universities in that into some diducation. The training laviation is not even answered to the continuing education and more continuing education would be a growth erea in universities in that into another convention of the continuing education would be a growth erea in universities in that into another convention of the continuing education would be a growth erea in universities in that in the future when the one of sur main growth areas in the future when the protect that mid-career studies for adults will be one of aur main growth areas in the future when the present approach in the relation of the continuing education. The relating laviation is not to be weak.

Science an hardly ho control of the training about the content of the career work, but I am sorry that measured the established. Nor Klina seems to be imparted about the future of the career wides in that it pollogy books by. From the protes

rant to the dovelopment of recurrent education for two other reasons. The first is simply that the "bulge" will still be there—but among the 30 to 50-year-alds rather than in the infant-to-independent of the product of the conduction.

intensified the obsession of schools, colleges and universities with the young at the expanse of other groups in the population. This demographic pattern may even be partly responsible for the exceptional character of ligher education in the long-term structural undersoner goals, whether reflective scholarship or extro-murel activity, seemed to be subordinated to the yeerly struggle to process mora full-time students, through the degree machine.

As the number of 18-year-olds—said perhaps of qualified cantidotes determined to enter higher aducation straight from school—declines, this blas will be corrected. Some, of course, fear that it may be over-

cruciel role. Parliaps it is not an exaggeration to euggest that the role of recurrent education in the birth of social end industriol democracy may be as important as that of compulsory elementery education in the creation of political democracy in the less cootury.

LETTERS TO THE EDITOR Sandwich courses

have supervisen stinients on indos-trial training, Whatever the reusaus for our differing assessments, hals not because one of its lacks actual

involvement in the system.

specifises and elsewhere.

The relationships between educa-

and too complex to be reduced to a "sandwich"/"non-sandwich"

During the emergence of the technological universities and poly-

tion to the application of that exper-tiss. Indeed, it my present depart-nient we are firmly conmitted to the combination of work and study periods. However, we would not argue for this as a sondwich course,

but simply as a good way of chu-cating teachers. Similarly, medical schools would not explain the ad-vantoges of thoir particular courses by appeoling to the sandwich prin-

The education of managers and

Sir.—My experience as a smidwich course organizer has been entirely us have taught in schools of studies consistent with Professor A. G. Smithers's evidence (THES, March have supervisen students on indos-18) that universities mislead sto-dents by claiming that the work and study parts of these courses are integrated. Moreover, I submit that the prospectuses which include such claims further mislend stu-dents by implying that they will be be able to obtain even complemen-tary work experience—or, indeed, any work experience at ell—during

Many students discaver that their employers use them as cheap tem-porary labour on routine tasks and that their universities discreetly ignore the fact that this work experionce has an relevance to their course of study.

Other students—and their number is increasing—are mable to ob-tain employment. Some institutions have hastily revised their degree regulations to enable students to complete their courses on a full-time basio in these "special circumstances". Another expedient has been to find odd jobs on the contput for unemployed students and to embellish them with the title f " desk research ".

In higher education (a better bett and buildings that may no longer the needed faw their original purposes, whether nursery school or college of education.

Release of resources

The opportunity to make o new and exciting start in recurrent education, which has been offered by the lower birth-rate and the coosen quent release of resources has come an alline when the need to make a new start la greater than ever. The first, sind most pressing, need is for a major retraining and reeducation effort to match the Government's plan to direct a greater proportion of the nation's resource into production, perhaps at the workulese and ductiva industry. Recurrent education, perhaps at the workulese and buildings that industrial training, for an uncomploy, ment in has meionly been brought about by other foctors. Those are the progressive decline in employment ployers' support for sandwich courses including the sciences, well as engineering and other technological universities and noisy training that serious situation in variety of reasonts, came to be in as been exsceptated by the current no variety of reasonts, came to be in a variety of reasonts, came to be courses including the sciences, ascial sciences and humanities, as well as englineering and other technics, "industrial training", for a variety of reasonts, came to be in a variety of reasonts, came to be in a variety of reasonts, came to be coursely of courses late outcome in the concurrent intense are the progressive decline in employment ployers' support for sandwich courses including the sciences, ascial sciences and humanities, as well as engineering and other technics are reliable to a mean to a variety of reasonts, came to be in a variety of reasonts, came to be in the coursel for intense in the progressive decline in employment ployment in the progressive decline in employment ployment in the progressive decline

ductiva industry. Recurrent education, perhapa at the workplace, to reorientate unrivers to their new tasks and responsibilities will be just as important as retraining in o more functional sense.

The second need is for a strategy for recurrent education to copo with the large term at the second need is for a strategy for recurrent education to copo with the large term at the second need in the second need is for a strategy for recurrent education to copo with the large term at the second need in the 20 venrs".

If there is no other evidence of the distinctive advantages of sand-wich courses I submit that the time is ripe for the aboadenment of this cost and time-consuming experi-ment. Especially as any real odvan-tages which such courses may pos-sess could be gained if students spent o year or two in full-time employment between school and

technologists and meoagers.

dence up to, and including, 1975. A. G. SMITHERS, when it was written. Moreover, ha Division of Educational Studies, falls to mention that until recently Department of Education, we both worked in the same techno-

Youre foithfully,

Psychology essentials

Sir, You report (THES, Mar. that Professor the Lord Valle usked Parlianteotary question SSRC grouts to members of connect and of its committee

I am nut in e position this There is little in Carl Hauson's There is little in Carl Hanson's letter which challenges my contentian (based on a careful appraisal of the evidence, available for all to see in Sandwich Courses) that many of the chains for the so-called soudwich principle just his not stond up in procite.

In particular, there is often not the degree of interaction between the work and study periods which is claimed in the college prospectives and elsewhere. to check the full text of prestions, but I very much hey curry no implication the is anything wrong with such s I for one, and I expect mon ocademics who deal with the love no reason to comple having our affairs continued fellow researchers whose applications for support have he exacting tests imposed by He does make the paint that and our peers. Bradford gradies are sought after by notential employers. But so tuo ore the gruduates of Imperial Col-lege, London, Cambridge University and UMIST.

Successful scadenics & and hulanced as they are not obvious ways) are surely de judges of the allocation of E fur research, as they med tion and industry ore too important distribution of UGC fuert nuestions of oppointer promotions in their own ante. disciplines, Would Lord Vi prefer to see SSRC funds alex technics, "industrial training", for n variety of reasons, came to be incorporated into a wide range of courses including the sciences, social sciences and humanities, as hy administrators, or by and ful amplicants for grant? Yours faithfully. ROGER MORGAN,

Prinfessor of European Palis University of Longhborough

Marxist journals

Sir,-Please allow one to confactual error in your anide a New journal sims for 'ope' cussion of Marxism" (THE ruory 4).

Tho leading sentents orticle asserts that "American major neademle Marxist jours ho luunched later this year's ther on, the article states,". there is no real ychicle of Me; is delay to cut out shutter snotch; is delay to cut out shutter snotch; is firsting LED indicator light moving manual or record mode while the use of solid state integrated circulary is said to here integrated circulary. expression fin the United Sus Whatever the projected pro

turna out to bc. It certilit not claim to be "the first"! can Marxist acodemic journel to suy "there is no real velki Marxist expression" in the E States requires o remarkable syncratic interpretation of the

tochnologists raises many important questions obout what should be taught and how it should be taught ft is possible thet some of the answers are contained within the Despite long-existing hosti sociulist liggs io the United Se present sandwich system. But alternatives like teoching commanies and teaching fellows should use he our country lios e notable recei nativos like teoching emmanics and teaching fellows should also he considered.

Given the exigencies of the present sandwich system too many students spend too long in industry. Many ara given low-level work roughly the equivalent of trainae doctors baing asked to sweep floors, to make beds ond empty bedpans. Students from a wida variety of courses ewamp the evaluation places in industry which ought to be carefully cultivated to meat the needs of students whose future coreers will lo there.

Sustaioing the mythology of the sandwich principla, which was important to some institutione at a particular stage in their history divarts attention from the heart of the matter: tha intrinsic problems of educating creative engineers, technologists and meoagers.

Yours foithfully Muraist scholarly publications

Thus the magazine project to the marchard and his colleges to be moving into an established amounty of Marcist Journal is until the colleges of the marchard and the market of the colleges of ing to see what distinctive bution it has to make. You're truly Ynure truly,
DAVID GOLDWAY,
Editor,
Science and Society,
445 W. 59th St, New York.



Audio-visual review

Clockwise front top left-Graham Stork demonstrates the feeling that "somehow this machine in getting out Clockwise Front top icti-training Stork demonstrates the teering that "Schoelow this indefine he getting of hand" in a CTCV troiping film | Unicol's V\$1000 victo system troiley until vich video recorder platform; Kohro/Panodia "Panocias" auspended slide life system with 1,000-slide portable store; Elliott and Sons' "Slidetta" | Audio-Visual Equipment's Animatic Convor MKIV dissolve control unit; EUC Cygnus CHS ratio-microphone in corry-case; Keeline Productions' E CS-I estiting control system.

between chromium dioxide end for iccorde cassettes.

Eicctronic Picture House—(80)
One of the main reasons for the main exhibit will be the company lutroducing new reogers is due to the leadequate soppily each which act as o mejor component of sound reinforcement systems in the leadequate soppily extend in the successfully used against the continuing demand and realing in the successfully used against the continuing demand and realing in the successfully used by a radio loke giving the last the continuing demand and realing in the successfully used by a radio loke giving the last the continuing demand and realing in the successfully used by a radio loke giving the last the continuing demand and realing in the successfully used by a radio loke giving the last the continuing demand and realing in the successfully used by a radio loke giving the last the continuing demand and respectively of the receiver in the protections.

Eicctronic Picture House—(80)
The main exhibit will be the counters from main cassette recorder with slided into the sync capabilities. The conditions of radiomicrophones which act as on main cassette recorder with slided into the sync capabilities. Among other new least 1s the main cassette recorder with slided into the sync capabilities. The conditions of receivers, the Nytech CTA2S2S, which new electronic dealing in little should be at a nor receiver, the Nytech CTA2S2S, which new electronic freedom of move established lines against the continuing programmes which have received the state of the receiver with slide in the receiver in the province of a receivers, the Nytech CTA2S2S, which leaves the p

which the stud of solid stude lines that the student students will be studed for the students of the students will be students and the students will be student

Harkness Screens Ltd—(105)
Horkness hove been manufacturing screens since the 1920s end will be displaying their range of Mirolyte screens which come in 16 different models. The screens are portable and are therefore ideal for clucotion and training. A considerable amount of the firm's work is custom built 10 suit enstoners' specific requirements.

Nicholes Hunter Educational Films Strips—(83)
Nicholss Hunter will be showing

Nicholss Hunter will be showing their wide range of wallets designed for the needs of both those who wish to store sildes and those who wish to publish and display them. New products on display will be in the Pocket Wellet range which can take notes or cossettes and sildes in booklet form and ure available in clear PVC. They take sildes from 8 up to 100, Special order for wollets manufactured in any kind of PVC arc elso dealt with.

Photographic Products

(33A)
Kenro specialize in the supply of photogrophic transparencies ond photogrophic transparencies of print presentation and storage products. They will be demonstrating their range of Ponodia susponded and book larm siltable for all popular sizes of slides from 35mm to 4ln by 5in and their Topclas A3 size slide display system. Keuro are the United Kingdum impuriors of quickpoint slide mounts. quickpoint slide mounts.

Keclluc Productions-(55) The company will be exhibiting the Convergence Corporation of Cali-

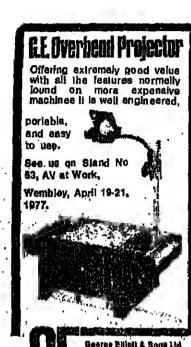
Couvergence Corporation of Callfornlo's editing control system Digital LED tupe timers, Joystick Search Modulo end PCS Program computer. The ECS-1 editing control system is ideally sulted for sultine editing jobs.

It interfaces to Sony 2000 end others, has a dual Joystick control for furward and roversa topo the tool of continuously variable tupo speed front still frome to three times play appead in forward and reverse.



An axhibition featuring CCTV alloipment, including VEL ES2 Elactronic Editing Suite OPEN 11 am to 6 pin Special Demonstrations at 11.30 am and 3 pm





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UNITED FILM SERVICES

Putting a political eel in the can

John Miller

In the opening film for the Open University course. "Moss Communications and Society", John Sears, Ronald Reagun's campoign manager, said that the unturo of the politicol business in America was such that you alwaya onticipated perceptions rother than dealt in realities. And television had a greet deal to do with creating what those perceptions were.

those perceptions were.

The first four films of the course abow what happened behind the acenes in Kansas City last August. Each of the big three Auctican networks huit a large television complex at the Kempor Areno to bring the Republican Convention to the public, and ABC granted us unprecedented access to film their editorial and production processes and interview whomever we wanted. television producer would heve allowed us to film in the

ever heve allowed us to film in the main control room, or any of the subordinate control rooms, if it entailed the customary television lights blazing in his foce during transmission but fortunetely technical advances aince the 1972 conventions had made avoidable special "fast" lenses, that let us conture some unions forces for our triple.

Quality at the heart of the colour problem

Colour problem

Recorded discussion between Michael Crarks, divector of the Colour many and the Colour delay in the blookgets and physical colores.

Michael Crarks, divector of the Colour many and the Colour many as wing away from the first: in Craivers of John Andier-Isani, Colour and Colour as Complementary to a swing away from the first: in Craivers of John Andier-Isani, Colour as Complementary to a swing away from the first: in Craivers of John Charles and Colour as Complementary to colour and the Colour nearly to the deduction and the Colour as Colours as Colou

TREC CONSULTANTS LTD.

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some unique footoge for our students.

Lest August I spent aeverel days aliting ground exacutiva producer Robert Siengenthaler's office, observing meetings, and being introduced to any member of the 500-atrong ABC staff who dropped in it, so that when the filling in crew arrived I had, established who the key figures were, and was oble to flim the decision-making process that was to shepe the story offered to dihe Americen elactorate.

The ry end ensure thet we did not miss any essential event we split our small teem three ways. While I stayed close to the executivo producer said the hoor of the operation, on a of my producers, Gwynn Pritchord, concernated on the onchor studio and the fillograph of the onchor studio and the foor over the operation, one of my producers, in high encounter of the concernate on the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation, one of my producers, and the onchor studio and the foor over the operation over the operation over the operation

At a meeting we filmed before "Horo, with all this diffusion that University.

Careption of Aberdeen University, which wont in for a full broadcast, quality colour mobile unit. Most purchases uowedays ere of smuller, simpler equipment, and this is often for use not in the oudio-visual alds unit but in individutal departments, where it may be utilized in rescent or teaching, especially in the biological end physicol scionces.

MC—That trend is not necessarily as swing awey from the first: it could be seen os complementery to it. One can imagine the media centra producing the more difficult reaching material, with the department using their TV as e demonstration.

MC—Fine—but are wellied to the production point of J.R.—I very much doubt it.

From the production point of J.R.—I very much doubt it.

three-man crew, so while one of us lithe convention he instructed all his live have, floor control, pers three-man crew, so while one of us was shooting, the other was abserving end planning for the next setup. Nothing could be rehearsed, pre-arranged, or ropeated, we had to judge when to turn over and when to cut by instinct.

The technology involved in the convention coverage is mind-boggilug in its scale and complexity. In coverage, the convention coverage is mind-boggilug in its scale and complexity. In overturned, but very quickly all the mein control, prime incontrol, it alike putting element in control, it alike putting element in control, prime control, prime incontrol, it alike putting element incontrol, prime incontrol, it alike putting element in control, it alike putting element in control, it alike putting element incontrol, it alike putt

Educational media in the

seems at last to have been recognized in addition a sharper unvariant of the individuel learner tyles and the individuel learner tyles are of the individuel learner tyles are mully and national development has oilssed out at some point in his formal education, hos emerged.

ing slevelopments in the use of the Open University and, at the other media. These examples are miso modable because they have reached thouseasts of individuals to the house they have reached thouseasts of individuals to the house they have reached thouseasts of individuals to the house they have reached thouseasts they have reached thouseasts they have reached thouseasts they have reached th

and objectives from those of the West Rapidly increasing populations, illiteracy, urban unemployment and rural development all pase special problems. To quote President Julius Nyerere of Tonzania, "We canoot afford to wait for the children; we must educate the

The British Council's Invalvement in the educational media field has slivings been concentrated In the Third. World. As on agent of the Overseas Development Ministry for carrying out troining and administering aid projects, council bas responded to the new British aid strategy whileh recon-mends more help for the puor in the least developed countries by moving further into the area of souk non-formal educutinn This has been reflected in meet-

ing requests for consultants to sovice on projects such us the tletion in Thailand and Negal mud un duance education in Pern, Mexicu, and Japan. Council ufficers have carried out otedla surveys und feasibility stridies In a number of countries and odvise on the design, organization, equippling and staff-

Training is o mojur aspect n British educational aid and the council has run a variety of tourses in London and overseus mi celevision, radio and audin-visual nedia production in mun-fnrutal

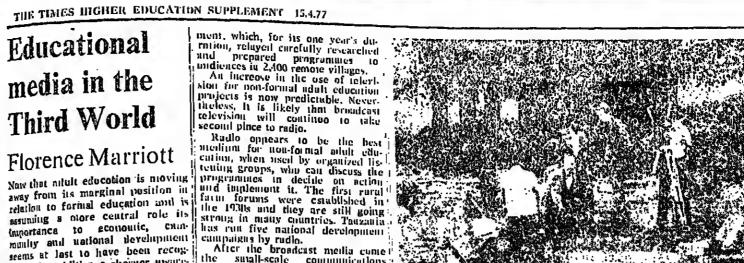
For example, five students from the Sudan Rural Television Project are currently studying televisium coduction, and another, graphic design for educational relevision in lorgrated council courses in Lun-

from training in the cultural environment of the West and the council has also given ossistance in setting op and running courses at the various national and regional lonniunications centres, such as the kenya lossitute of Mass. Communications and the Asian Institute for Broadcasting Development, where broadcasters, researchers and inheritectalists can develop their skills in an appropriete confext.

To gain a perspective of the rilice of the media to adult education in the Third World, it is help-the to divide them loosely into three categories;

First come the lorge-scolo com-mulcations media of broadcast the vision and radio. Television's confiducion to Radio description les confibution the adult education lies in the areas of general cultural programming (more a Western phenomenon) and as a stance stance education component in inalogues of the Open Vulversity of Inservice teacher education projects

Television in the developing provide usually has the Umitation of teaching cooly the wall educated, and seterally rich in the citles and not the priority audiences in the areas. The striking exception to this was the recent Indian Sutellie Issituctional Television Experi-



A location filming exercise oo a British Council course on audio-visual medio production in non-formal education. On camera is Mr Ion Raymond-Tex M'Buka, from the Extension Aids Film Unit of the Ministry of Agriculture and Noturol Resources in Melowi.

remorders, and to a lesser extent Smut film are being used for some

Non-professionals can operote the

because they have reached those sands of individuals to the home can be decentrolized, projects and through the mass media of rodio and television.

Adult education in developing contries has different priorities contries has different priorities.

Adult education for the issues, the community was she to present its case—also using the Skyrlver Project, first the

vided each of its 40 listening group; with a simple ondic cossette recorder. Each group leader was given basic training in its use and was asked in record whatever more rial the group thought appropriate for passible use on the broadcast

Over o period of months broad-casting from the tapes increased steadily and moved from somewhat self-conscious music and emercainself-constious music and entertainment to interciews with government leuders and discussion of significant community issues. There are many more small-scale project using small format equipment, for example, in Ethiopia, India and Tanzanin.

Finally comes the wide range of Finally comes the wide range of traditional audio-viscal vide, often overlooked because of their familibrity. These include print of all kinds, pictores, photographs, potters, slides and techniques soch os game playing and simulation. All ore flourishing, often, of coorse, in conjunction with the bigger conmunications media. Troditional folk medio auch as drama, song, dance, puppatry and story-telling have been used with particular success in family planning education.



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IANDBERG E Education Division



recent years.

best such produced in Britis

So for, again unlike the

Stutes, surprisingly little has been done wither in the field or labory with videotops although a University of Bradford's Sthool Archaeological Scisucas is made ing a number of tagus involved.

ing a number of tapes intended in self-instruction on vorious aspec of duting and archaeological in

There are, of caurse, educ film companies making archeconi material both bere-Cap

Films and those distributed by f.

McGraw-Hill Company can be no

remain the lorgest untapped some

The Open University has a

ne course, a second level

only is much of the end

the current estalogue Issed by BBC Enterprises lists only tesd the "Chronicle" programme n being for hire.

Pilms for example-and

Communication matters

The fresh dimensions of audio-visual techniques now offer you more help in

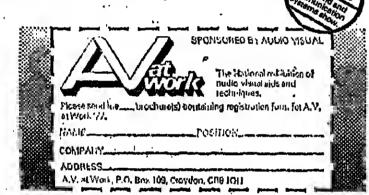
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The communications industry is constantly refining established methods, inventing new techniques and finding new uses for

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All the latest developments will be on show at this year's Audio Visual at Work Exhibition at Wembley, April 19-21, 1977.

Communication matters to you see it in action.





Preserving the past on celluloid

J. V. S. Megaw

Archaeology like art history is nothing without images, he view of t this shartering traism it is sur-prising how little television or film seems to be used in the teaching of archaeology at tertiary level. Slides, yes; film, for amusement only and closed circuit television

year students at Leicester University suggests a osciulness both la introductory courses and for the explanation of complex techniques.

ts! Institute in the 1920s can be seen in a compliation film made in 1952 by the institute. Whilst in 1937 in the United States Ray Garaer, a well-known film maker of these reconstructions was rescued after the end of World Wer II and used in "The Vikings, of their ancestors and descendants", a credited on "staff chemetog-rapher" to an expedition to the Arizone-Uteh desert.

There are, of course, couch motiers of copyright to be used the Tuborg Brewerles.

Film apprecial and availability Party includes representative of the co-operation of the the Chronicle" programment the being for hire.

There are, of course, couch motiers of copyright to be used to the time of the being for hire.

There are, of course, couch motiers of copyright to be used to the time of the being for hire.

There are, of course, couch motiers of copyright to be used to the time of the being for hire.

There are, of course, couch motiers of copyright to be used to the state of the cooperation of the the cooperation

Film appreisal and availability comes of the living—or rather the no-louger living—has an eveo greeter antiquity. The anthropologist Baldwin Spencer was filming Austrellen aboriginos of the Aranda tribe at the turn of the Course of the Aranda tribe at the turn of the Course of Scaneda's "Disappeering World" end BBC tolevision's least to the film—as sors, though now the film—as rocord—has given wey at least in part to the film-as-instruction or, more often, the film-as-entortain.

Film appreisal and availability comes after film making—enother truism in making—enother truism in making—enother truism in making—enother truism. In this country, we have the hoth tha BBC's History ut Archneology Unit and Anglis To entainly includes representative the hoth tha BBC's History ut Archneology Unit and Anglis To entainly includes representative the hoth tha BBC's History ut Archneology Unit and Anglis To entainly includes representative the hoth tha BBC's living in the high lovel, both technicol end educational, of the film produced by the French Service du Filan de Course television's neather truism. In this country, we have the hoth tha BBC's History ut Archneology Unit and Anglis To entainly includes representative the hoth tha BBC's History ut Archneology Unit and Anglis To entainly nothing to compare with the high lovel, both technicol end educational, of the films produced by the French Service du Filan de Cieval and Course television's neather truism. In this country, we have the truism one of the high lovel, both technicol end educational, of the films produced by the French Service du Filan de Cieval and Instruction Giyn Doniel of Cumbridge Units sity.

The outlors representative truism of the high lovel, both technicol end course trieval and availanting truism. In this country, we have the wislou, one of vision, one of vi Aranda tribe at the turn of the cootury end such television series es Graneda's "Disappeering World" end BBC tolevision's "Tribel Eye" are worthy successors, though now the film—as roçord—has given wey at least in part to the film-as-instruction or, more often, the film-as-entortainment. Certainly, some of the most interesting recent "record" films evallable aru those from Eostern Europe, Korea and Chine, notably several films mado of the romarkeble finds of the iest docede.

Hera perhaps lies the groetest problem in the use of television and film as teaching media—or rather two problems; knowing whet there is and knowing how good it is when one has found it.

As In so many other things, the Americans have the odvantogo of us; the Archeoological Institute of America has had a Committee on Films and Tolevision since 1955 and the journal American Anthropofogist has in recent years become a veritable Cohiers du Cinéma Archéologique, most recently with a critical raview of some 170 archeological films, the result of a four-yaer long research programme by Thomes Wight Beole of Herverd and Paul F. Healey of Rutgers end Paul F. Healey of Rutgers University.

In this country, the Royel Anth-ropological institute has a film committee but only in recent months beve a number of ercbeso. logists concerned lo teaching orcheoology both to university end

an attempt to cu-ordinate various overlapping projects uloned at the listing—and appraisal—uf undinvisual materials. Although Southumpton University's udult education department produced in 1975 a long list of Films on Archweology, this list is unselective unit already by produced of the considerable register.

It is hoped soon to emulate our American colleagues and offer criprogrammes through the medium of the regular Newsletters unbulished by the Council for British Archaeology and the British Universities Film Council. As present, the forthcoming edition of the BUFC's extologue Audio-Visual Materials for Higher Education has on file a mere 30 titles for positive inclusion. More specialized lists have been issued or the also in preparation by the CBA's Schools Committee and Leicester University's department of museum stu-

Nor should one forget that even seemingly "outduted" films anay baya their educational uses. Thus "The Beginning of History" anade at the time of the Festival of Britein by the Central Office of Information contains some early Yet archaeological films certainly at the time of the Festival of an archaeological films certainly at the time of the Festival of an archaeological films certainly at the time of the Festival of an archaeological films of excevations. Brief extrects of films of excevations carried out by the Central Office of an archaeology which however pale into insignificance beside the reconstructions the seen in e compilation film made in the National Muscum of Denmork. Footoge of these reconstructions was a compilation film made in the cooperation of the seen in examples.



Haphazard services

less, the aurvey is a ueoful piece salides, films and videotapes stof evidence and gives a picture of the books. Nor does he will the questions of integrated the product of the product o

Haphazard

Search for

Services

Elizabeth Oliver

A survey conducted, at Lancaster University of this expression of media use of services. As well as examiling the position in this ona university, Michoel Roberts draws on examples from the basis of this paper.

A survey conducted, at Lancaster University of this paper.

A survey conducted, at Lancaster University of this paper.

A survey conducted, at Lancaster University of this paper.

A survey conducted at Lancaster University of this paper.

As well as examiling the position in this ona university, Michoel Roberts draws on examples from the library sand the library sand the library and the position in this ona university, Michoel Roberts draws on examples from this ona university, Michoel Roberts draws on examples from this ona university, Michoel Roberts draws on examples from this ona university, Michoel Roberts draws on examples from this ona university, Michoel Roberts draws on examples from this ona university, Michoel Roberts draws on examples from the library and the position in this ona university, Michoel Roberts draws on examples from the library and the position of media use a fundamental survey but rather the information on how people find ont about audio-visual media is not provide librariens with sand the search for eppropriate sudio-visual media is not provide librariens with sand the search for eppropriate sudio-visual media is even more a defectively. It also that the search for eppropriate sudio-visual media is even more a defectively in the more reliance on colleaguas than on library staff or catalogues. Ha mentions the "strong teeling, more reliance on colleaguas than on library staff or catalogues. Ha mentions the "strong teeling, more reliance on colleaguas than on library staff or catalogues. Ha mentions the "strong teeling, more reliance on colleaguas than on library staff or catalogues. Ha mentions the "strong teeling, more reliance on colleaguas than on library staff or catalogues. The biology of the university of the postronduct

3-D images by laser help technicians

S. J. Dalziel

For the professional trainer, and or risual side should not only enlimeen learning, but do so in an appropriately cost effective way. Their usely all forming doctors one part of a learning doctors.

will for should) form one part at a total learning design.
Such on approach will take second of what is to be learner, the characteristics and motivations of both learners and trainers, and the conditions under which learning will be taking place. Consideration must also be given to the practical problems of flexibility, reliability, acceptability and cost in relation to learning gain.

Here are three examples of the approach being taken by the Training Services Agency within this general setting. First, the agency

A current example is laser holography. The agency is flauncing of four pilot project in cooperation with Loughborough University department of mechanical engineering, Leicestarshire County Conneil, the Engineery logical project in ollege of Commerco and Techno-

lis aim is to apply and carefully monitor this technique of displaying three-dimensional images, in order to help first-year foundry sional drawings to three-dimen

project is that it was not just a "hight" idea, but one which had already been developed to an application stage and in which a aumber of responsible and experienced training and education badies saw real possibilities.

Secondly, in reviewing the present arrangements for the training of the present arrangements.

trainers the agency's nutional training of Troiners Committee will murally be concerned that trainers of all types will have a practical undersisading of learning and of learning methods and alis. Trainers carry our n wine variety

Enlightened

sponsorship

still needed

he Empire Markating Bourd in

showing that large organizatious

ould sponsor films on subjects of

direct or indirect relevence to thuir

ommerels! interests has produced

inch harvest of materiol accept-

It is a lield in which Britain has ong been pre-eminent, from the days of "Night Mail" or "North

ita" (se early classic document

ble to audiences of all types.

Alec Hughes



engaged in practicul trade training, corried out in away centres to strict national standards of content by troined instructors who are also highly-skilled practitioners.

The problem was how best to support this type of troining in

The problem was how best to support this type of troining in well give equal food for thought. Which by far the greater propurtion of time is spent in practical work. The solution has been to make extensive use of the overhead projector, and our insurance, what discretion and flexibiprojector and our approach had heen not only to ensure that the results are fully professional, but also to exploit to the full the uses

own sequence, sets hovo been core-fully designed, volidated and pro-fessionally printed. They are pro-jected on to a mognetic white board where they can be supplemented by magnetic cut-outs or by directly writing on to tite haard. Cut-outs are porticularly useful in training in foult-finding.

A most interesting devolopment in which the unit enterned has played o major rate has been in the field of ulimution, for example,

h, extremely realistic represen-lations of air and liquid flows in any direction, are obtained. This system of animation and also be used to explain procedures and flow charts. It is entirely under the tem a standardized kir has been produced for each skill centre to

produced for each shill conne to prepare its own transparencies and coronts to a high standard. In short, a fully exploited, economical, durable and flexible system has been introduced with remarkably small, though highly expert, resources.

Using the same principles of cost, versatility and suitability to the practical situation, sound/silde projectors are being introduced for use in areas such as safety training. Programmed texts are used to meet individual needs where, becomes of lastning difficulties or phased entraoco on to courses or where a trainee bas missed some beckground explanation, additional treining is required.

One problem which seems indi-

mathods.

Thirdly, the TSA uses oudio-visual sids in its own illrect training services of skillcentres. Here it is willinguess and ability of the user.

Cara is therefore needed in deciding not only what to introduce, but how to introduce it; for instance, what discretion and flexibility in choice and use should be boilt in so that aids ore seen as

lfow may the users he invulved at all stages? Audio-visual alds oud at all stages? Audio-visual alds oud methods can be rejected or Ignored for twrong reasons as well as right ones, and great poteotist training value (and investment) can be lost, It is for this reason, natong others, that the training of treiners la so important, in order that, whether simpla or sophisticated, oudio-visual alds achieve their olm of onhoncing the best kind of learning, at the right place, in the best way, at the bast cost and with

The methor is senior training odviser, Training Services Agency.

trial development have been explored, another industries in the excellent icl series on the onvironment. Other industries like electronics, steel or civil engineering lave contributed some classic films.

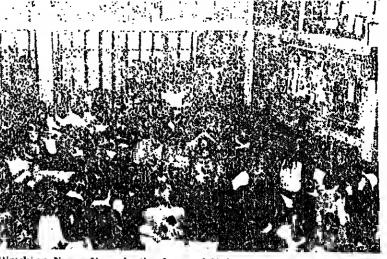
In the field of ultimution, for example, odviser, Training Services Agency.

Visual Centre as a measure of self-protection ngoinst the aironau of aspiring gentless arriving duity with requests to "borrow a common for the production of the ultimeter documentary about "Life, it deprives education of volumble unturned lave contributed some classic films.

Supposersible policy reflects and the first measure of the larger about "Life, some context of the larger about "Life, some context of the larger about "Life, some context of the larger and the larger about "Life, some context of the larger and the services are context."

Supposersible policy reflects and the context of the larger and the services are context. hy lissa for physics teuchors. This is to be regretted, not only because it deprives education of volumble material, but olso because our current cancera with the gap between education and infustry makes such productions of the production of the production and infustry makes such

public relations. Some organiza-tions, bocousa of the nature of their producta, heve special con-cern with safety or with the proper use of materials and equipment. is a serious main or "North stress and serious presentation of seek successful the from these been seek successful and process examples of promotion mass as successful and process examples of promotion mass as successful and process of the seek successful and processful and p All sponsorship reflects vested interest. Whilst there have been groen examples of promotion mas-



A mirror of university life—on TV

Malcolm Freegard

During the last 10 years, the university newspaper has acquired an elly—some would say a rival—in the form of television. Sometiling like a third of Britain's naiversities now have television services run by NASTA, the somewhat unappao

In 1968 and has had as many on 32 monthors, though not oll of the

The television services aatablished The felevision services astablished in a number of universities in the mid-1960s following the Bryamor Jones Report were not intended to be used by students to make thoir own programmes. It would have been nareallelic, though, not to expect them to cost ambitious eyes on the well-equipped entdlos they walked past overy dov.

At East Anglia the student tele-vision acciety, Nexus, was started in 1970 by the staff of the Amilo-

engincering have compromediated the constitution of the sponsorship policy reflects on the ono land the spirations and the once valuable of the sponsoring organization. One can quote littlish Transport and the Notional Cael Bourd as old established industries edjusting to technological and social change and in so doing reserving in a films which range from technological which range from technological which range from technological which range from technological sophisticated technological which range from technological which range from technological which range from technological industrial and commercial life (despite the valuable contribution in the contribution). The measurement of the resulting programmes ware viewed in a large with its growing section on careers.

The opening of University House, which contains the students monitors.

The opening of University House, which contains the students monitors.

Carcers).

We need ntore collaboration between industry and education (exemplified in some of the fillins spunsored by PETT i Project. Engineers and Technologista for Tomorrow)—notably "Design and the Engineer"; or those of the Electricity Council with schaols, technical collegas and universities). Nor naed sponsorship depend on industry alone, Manchester University of the industry and industries and propagate in University House.

If I have concentrated on industry and industries sufficiently beceuse these are the complete in University House.

If I have concentrated on industry and industries sufficiently beceuse these are the complete in University House.

If I have concentrated on industry and industries sufficiently beceuse these are the complete in University House.

If I have concentrated on industry and industries sufficiently because these are the complete in University House.

If I have concentrated on industry and industries sufficiently because the colleging of University the stochasts to provide "service to the union". In fact it mirrors the University of East Anglia a good deal more widely than this would suggest.

Brucol University widely than this would suggest.

Brucol University in the stochasts and probably more accurate—view of the relation within the stochasts are relative in the stochasts to provide "service to the union". In fact it mirrors the University of East Anglia a good deal more within the students in the stochasts and provided and probably more accurate—view of the relation of the first two designs and probably more accurate—view of the relation of the subject to the union in fact it mirrors the University of East Anglia a good deal more widely than this would suggest.

Brucol University in the critical dulinoss, with uncharce the view of the Audio visual Centre of the Audio provided and probably more accurate—view of the critical cullinoss.

Bruc

outside broadcast unit. Transmis-sions take ploce et lunchtians be-tween twelva and two pat, and production standards are reuson-ably high, though ineven. Television is affected more than most university activities by lock

Television is affected more than most university activities by lack of continuity, and the waning of interest and shifting of priorities brought about by approaching examinations. The facilities ovallable and the conditions under which programates are made mean that only a few people can be employed of a time, and the hondred or so authusiasts who join of the beginning of each year soon dwindle to

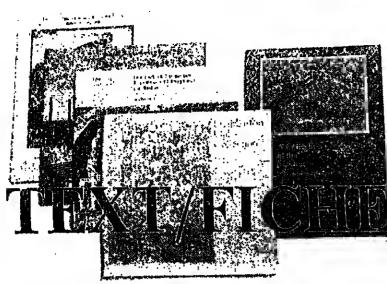
ning of each year soon dwindle to uround 24.

Nexus consequently faces accu-sations of being a self-admirlog coterie of middle-class students

nucle by its predecessors, This means that a inrge part of the output of Nexus nover rises above mediacrity. To be fair, though, the best is very good indeed, and for the past two years o messure of continuity has been provided by an exceptionally telented and enthuralistic nesternducto student.

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Bringing the country to life Brian Hill

A substantial proportibu of the commitment of the BBC and TTV ng is devoted to the teaching of foreign languages. This year, for instance, there are nearly 30 series being brandcast on radiu and television ranging from five day intension ranging from the day intension. vision ranging train five-day inten-sive courses for absolute beginners to weighty programmes far sixth farmers. For some series, eudiences in excess af 100,000 are narmal.

to spire of a considerable investment in time, maney, talent and hrow mapping, little detailed research had been attempted until recently. Feed-back from learners and leachers alike was an insub-stantial base for decision making and reports from the campanies'
own officers were, of necessity, concentrated on obtaining an overview. Answers were urgently
needed to some fundamental ques-

For further education caurses, it was important to know who was learning, far what purpase, with what aucess and in what way. For schaols brondcastalt was necessary schaols brondcastalt was n schools brondcasts it was necessary to understand more about how teachers used series, with what frequency, for what purpose and with what auccess. It was also felt that not enaugh was known about the patential of broadcast media and, in particular, of the interconnexians between radio and television in mixed-media courses.

Three years ago, in an attempt to slicd some light on those areas the Language Teaching Research Unit at Brighton Polytechnic started e number of investigations supported by the BBC, the IBA and the West German gavernment.

During the first stage, enquiries were facused on the beginners and intermediate German course "Kontakte" wegweiser ond an the schoals' French series "Le Nonvel Arrivé". In each case however, the abject was to generate as much information as possible which was "medie-based" rather than nurrowly related to the engelfer rowly related to the specific

The inctiod employed was to conduct a national, large scale enquiry to establish contextual statistical dota and to bock this up with a minuber of intensiva prabes to

observation and structured though the designers aims of I house work per week proved the mistic, since the average kin The undience for the further

THE TIMES HIGHER EDUCATION SUPPLEMENT 1540

The audience for the further education series presented some surprises. As might have been expected the overall standard of education was high, with approximately half having completed full-time higher education. Other factors, however, were not furescent: 80 per cent of the audience had already spent a considerable amount of time learning a language and very few were "pure" beginners, with a quarter actually laving followed a previous "intermediate" German course and TV.

The profile established was of an instic, since the average leaves only willing or able to the was only willing or able to the way only willing or able to the way in the BBC helped to transmit characteristic in the BBC helped to transmit two haurs only willing or able to two hearts of the formation in the United King.

The profile established was of an audience with a clear interest in German and Germany, "dabbling" in the same ase for telest thun of baginners limity committed to any specific need.

thun of bagiliners mining countries to any specific need.

There was considerable support from verious sources far the concept of o multi-medio course far language learning, even though the language learning, even though the majority had in their previous work experienced gruounner-translation rother than ambia-visual or undio-lingual teaching techniques. Tests showed that the majority of thuse who remained with the countries had been oppoured decisive.

Tests showed that the majority of thuse who remained with the countries are the stee oppoured decisive.

Certain espects of the integrations, reading and speuking-

tening, reading and speuking.

The series had been conceived as a three-year progressive caurse, but a somewhot disconcerting result was that only 17 per cent of learners were still following the programmie at the end of year.

Lest Contember 2 cent of ling future policy.

A detniled analysis of the sons for giving up is now woy and it is expected a mumber of experimental a systems, such us self-study p tutor telephones and rescourses will be designed.

The need to understand used the complex intercogneties tween complex intercogneties tween chicumional broadcast the teaching situation has seen the development of another similar. The importance of use expectation, af teacher soft during the content of the cont observed with the and of acing unitude moderstanding a marce efficient use of meteric The whale area of resemble the use and effectiveness of casts is highly camplex and cantinu must be exercised to preting results, particulate separating course-based and separating course-based course-based course-based course-based course-based course-based course-based course-b

The hard fact is that since 1923, when Richard Hughes wrote Donger, the world's first raile

play, British writers have charmed out 40,000 scripts which are naw lying, largely unstadled, in HHC

temporery literature and drama.

Towards

a chair in

Ian Rodger

of English in universities.

radio drama

binnies, I knew that such views. The author organized the first lead and though I have met a Rudjo Literature Conference held whose minds are not at Durham University last week,

DEPT. of DRAMA

wrote, as if guthering his skirts far eur of intellectual rape, that radia wantil never, ever, be stuilled" in his department. I was left wandering bow his

tudents could study the clussic repertaira without - listening ta radio adaptations or come to any understanding of the work of people like Santuel Beckett, Haruhl Pinter or Brecht without know ledge of their radin genesis.

illes and, even in one occusion, unother university where there was

mension and film.

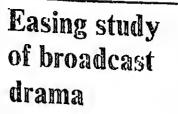
In Biltain there seems to be sholars to study work in these to study work in these there forms. They seem to have on the distaste for it or cultivate a should the first thousand. Like their predecessors who ploodered between in his should the first thousand. Like their predecessors who ploodered Beowniff studies they are showing the way but this study ought not to be left to poople who do not inhobit the language.

I can only end by moving that we establish within a reasonable them author of The block had wested so much of his bidge on poelry.

In Biltain there seems to be stripts owniting study. The Germans, to their credit, have started work ou the first thousand. Like their predecessors who ploodered Beowniff studies they are showing the way but this study ought not to be left to poople who do not inhobit the language.

I can only end by moving that we establish within a reasonable time a chair or two in radio literature. This study must of course form an integral part of English studies. It must not be contained within some new freak department out of sight and sound of those who seem to went to deny that we inhabit a living language:

The author organized the first



Drill the publication of the BRC drama cutollagues it was ensire to discover what plays were staged in Landon in the 1660s than it was an actual common that the stage of the 1950s. Even the Victurian music hall his been beaters served by reference works than radio and relevision. The stage of the play in which you are interested but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference but there is no suther or tile index. It also is not totally reference of the programmes.

Chapter in the merits of radio with large in the stage of the programmes.

A great number of scholars refused to give the subject any thought at all. There was, for example, a Prolesson rid draw on wrote, as if gnithering list skirts far

television in 1923 and results of early title and in orany television in 1925. There cases the results of ambience are separate catalogues for radio and television and each is divided into two parts, authors and titles.

It is only by browsing through the catalogues that one gains a customer and the catalogues that one gains a customer catalogues that one catalogues that one catalogues that one catalogues that catalogues the catalogues that one catalogues that catalogues that catalogues that one catalogues that cat

of broadcast

It is only by hrowsing through the catalogues that one gains a contact the catalogues the BBC ontrot over the last 50 years. Through the catalogues to long the BBC and through the catalogues one can begin in glimpse the pattern of broadcasting over the years, the dominance of certain gains at different periods. They reflect the tastes and incrests of a moss underest period of the BBC and through the catalogues in dominance affections can be bound. These catalogues are also ascind for answer the discover what plays were staged in Landon in the 1650s than it was in case discover that plays were staged in Landon in the 1650s than it was in track down the decime and cinema and cinema

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All our time could be spent in satisfying the basic information needs of our clients. But the centre information bas a function not just to focilitate information by standing indeed even the most information by standing indeed even the most information standing. Indeed even the most information standing. Indeed even the most information information by standing indeed even the most information standing. Indeed even the most information standing. Indeed even the most information standing indeed even the most information standing. Indeed even the most information standing indeed even the most information and independent information information needs of our clients. But the centre information information needs of our clients. But the centre information information needs of our time production information needs of our clients. But the centre information information needs of our clients and its entitle production information information needs of our clients. But the centre information information information needs of our clients. But the centre information information information information information information information needs of our or clients. But the centre information in the production in the production in the production in the production in the production

ening, reading and speuking-

When to ask
the right
question

Tim Long

The national Audio Visual Aid a school or elega Becumentarials for their work. Not the same apost of responsibility when, as is often the emailing and the same apost of responsibility when a serious collega Becumentarials for their work. Not the was seem may of what oce might amount of the realitively the same and the same of exploration of the realitively the same and the same of the same of the same and the same of the same of

nchievement.

Month-to-month reauscitotion : an illustration fram'one of the BUC French innguage series Ensemble for further education. The author is in charge of Language Teaching Research at Brighton Polytechnic.

The Radio Literaturo Conferenco beld last week at Durham Buiversity has lead me to reflect un some current approaches in the teaching I arganized this conference This kind of reply was nt least ecouse it seemed to me that writforthright. More devisus was the iag for radio has been sbamefully

pulite response of those who seemed reglected by critics and schulars momentarily trapped by my inviwho proclaim an interest in contotions and who then brightened as bey deflected me unishle English literature. They would suggest the audh-risual alds section, the students' film society, somebody 1 sociidagy ar communications stu-

> department studying tape record-Sometimes I was directed to a ulcu Mr or Ms Illank, who was teaching IIEd students inw to use

THE TIMES IN

THE TIMES INDEX r. np

THE SUNDAY TIMES m LITERATURE r

THE TIMES LE MONDE m

LE MONDE DIPLOMATIQUE M. THE FINANCIAL TIMES m

THE DAILY TELEGRAPH m

NATURE m



duced by their interactions.

Particles are canceived shaply as points

In contrast, to define a "field" we need to specify e set of numbers of every point of space, as well as properties such as energy,

momentum, and angular momentum which may also be associated with the paint.

The motion of particles is represented by

the laws of quantum mechanics. On the macroscapic scole thesa reduce to the fami-

around a masilirely charged more massive aucleus—have led to a full, detailed and

quantitative interpretation of the proporties of atoms, the light they emir when they are in "excited" states, and the way in which they combine with other mams to produce

The quantion theory envisages that a field can also exist in excited states of definite

can also exist in excited states of definite energy. When energy (E) and connection (p) are transferred from an electron to the electronugactic field, the latter is set in vibration with frequency a such that E=humbers h is a constant of nature, called Planck's constant. At the same time the amount of momentum transferred is p=he/c

amount of momentum transferred is provide where c is the velocity of light. We see that

the molecules of chemistry.

presentations, the Sentinel 16 for small group viewing and the Throw 16 for larger audiences. These come together with the Aid Compute the company with the Aid Compute the computer with the Aid Computer to the computer with the Aid Computer with the Aid Computer with the Aid Computer with the Computer with th

Plemsglen ere the sole importars and distributors of SIMDA audio visual equipment. Among the new products being shawn, the most important is the AV750 reer projection cabioet incorporating dissolve projection and sound replayed from the new LC30 cartridge replay unit. By adding a timer to the control aquipment, programmes can be estated entomatically.

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(63 and 73)

NSR Ltd are egents for a renge of Audio-Visual Labaratories inc? products. The latest, the new muitimage computer pragremmer Sbow PRO V will be screened of the exhibition. The Shaw is claimed to be a totally new cancept in multimage systems—all viscolurs.

Totaling Films Internalional Lid—

Swaa-Stabilo Ltd—(31)

The company will be showing their range of special pens and markers for use on OHP transparencies in both permodent and soluble. The range offers fine-line, medium-line end braad items individually or in many waller sets. New Items on show will be the STABILO plan "Dry Wipe" marker for use on show will be the STABILO plan and Swan STABILO plan and successful.

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exhibition. The Shaw is claimed to be a totally new cancept in multinisgs programming systems—all dissolves and program aperations or a bulli into a single computer controlled package.

Noba Visual Aids Ltd—(9)
Nobs will be showing a full range of display iccinring and toaching aids including an ug-dated versian of their papular portable Flipchart Bescl, double sided mobile fecturer whitebaord, which can be used with Drymarker Pens one side and chelk on the raverse.

Narib East Andla Ltd—(94)
NEAL naw produce a full range of cessetta recorders to meet all requirements. For example the 102 has become the stomlard cessette recorder for many arganizations and the stomlard cessette recorder for many arganizations. The film is now being offered free to calleges, universities and schools as a result of a 100 per cent grant from the Cambu Faundatian.

Unichart Ltd—(84)
The company distributes teaming films specializing in monagement, supervisory and safety subjects. Particularly topical is the Hanley Course for Forecasting's Path to Prosperity film produced by Cygnet Guild Communications and eliminated diagrams the film illustrates the prapartian af value ndiled ploughed beek into Investment to expend and raise living standards. The film is now being offered free to calleges, universities and schools as a result of a 100 per cent grant from the Cambu Faundatian.

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has become the atomiard cossette recorder for many arganizations and early arganizations and extra facilities such as three input mixing and the exclusive Varitape feature make the 103 machins saliable for truly professional applications.

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The student intake in your depart-ment has doubled this yeur. The fine new lecture theorie that would have held them all comfartably has

tkere are ways of recording thoso lectures before their amhors leave; other fectures even; basic course units, experiments, replayable any time, any place, to any number of students—provided that you have the equipment.

And here the bubble bursts, or seems to. Not every department has access to vidsotepe playback facilities, are even that mast venerable of AV tanls, that the projector. Nate waiting to come with the crisis and make their recardings for them. If he did not own a case to trick in the prospect of make their recardings for them. If he did not own a case trick in the AV Laburatory, are barrow them. If he did not own a case to trick in the consistency of the prospect of make their recardings for them. If he did not own a case trick in the case to television, dashed by the prospect of make their recardings for them. If he did not own a case the student could also barrow a cheap replay-only with headings in Lettaet. The printing cost of Beick: to the professor's discourse on the professor's discourse on the printing to the professor's discourse on the professor's dealers the book as professor the back as professor the back as professor the back was offset libergary the back as professor the back was offset libergary the back as professor the back was offset libergary the back was offset libergary the back was offset libergary the back as professor the back was offset libergary the back was offset libergary the back was offset libergary the back was offset liberg

my introduction to tape-hook programmes. My introduction to tape-hook programmes came a few yeors agn when I was a designer-illustrature and speut my time making TV graphics. My director was approached by the department of obstetrics and genecology at St Thamas' Hospital with a startling new idea.

Would lie flut it use, with the illustration page, and the right-hand page left blank for the student's own notes, and this agreed, wo set about making the programmes. It was my first experience of reci production, and I enjoyed it.

A doctor would arrive each week it.

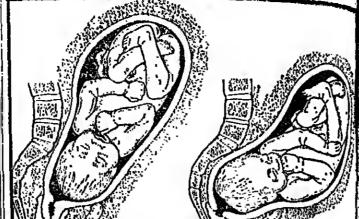


Illustration from the book Basic Obstetrics t left, coset of lebourite fully taken up cervix.

seeming Intricacies at viden, film, home. In graups, the students tions, editing the types, and the proposition makes sense; would take it in turns to work there are ways of recording those lectures before their authors leave; the wards.

and televisian, dashed by the expense and lack af equipment, where da you turn?

The answer far some will be sained recardings (if pictures ore not vital), tape-slide (tragrammes) (where still pictures in calour arm as important as the sained); and tape-book programmes.

My introduction to tape-hook programmes came a few years agning when I was a dealgner-illustrator and speut my time making TV.

All this agreed, we set about the left through the lack of the professor's discourse out the left hund page. For example, the lack of the students of the students of the students of the lack open-real masters) onto said.

Cottoms the trialing cost of Bakic trics warked out st oben time to specify and notes (plustuces in the book while taking one's ease in the book while taking one's

send speut my time making TV grephics. My director wes approached by the department of obstetrics and synecology at St. Thamas' Hospitel with a starting new idea.

They needed an inexponsive way af freeing their teachers from the repetitive yearly grind of basic abstetrics and gynacology courses, so that more time cottid be spent with the students on tutorial and ward rounds.

They wanted programmes thet could be used by their students with the minimum of fuss, somewith the minimum of fuss, somewith the minimum of fuss, somewith the lospital, sometimes in the hospital, sometimes et

When a study discipline

Nicholas Garnham

perististic ecadanic project is clear, but us a syntptom it is significant and importent. We ero living through on era in which the centro of economic gravity has shifted from primary and manufacturing industriee towards the tertiary of service sector, and within that tertiary sector e shift from traditianal accupations ench us domestic service into information and symbol processing jobs,

and duplicetors. Among new items will be the Bell end Howell 35mm elids seif screen sound projector intended for the calculation and training market.

The eree of academic activity described as communications studies is in confusion. This is herdly surprising elica communication and training market.

Wilson & Garden Ltd.—(43)
The company will be oxhibiting the company will be oxhibiting the company will be oxhibiting to the company will be oxhi

"salve" any communication len thrown et them. It is

Figure 1. How field quante moderate per-ticle interactions. The first electron emits teld and changes direction. The second electron absorbs the photon, de-exciting the field and undergoing deflection. The second the field and undergoing deflection. The seed Nucleon-nucleon scottering (strong set action) could be represented similarly if the electrons were replaced by meson, and the photon by a pi-

The new horizons of particle physics The sim of high energy physics is tu understand the fundamental mature of anater in terms of portices and the fields of force pruselics and the total number of particles and the total number of particles and the fields of force pruselics and th

One family of particles, known as haryons, includes the neutron and proton. The neutrons and protons must be held together in the nucleus by a powerful attraction. Since the neutron carries are always the force Particles are canceived shoply as points endowed with properties such as mass, electric chargs, and splo, together with a number of new properties that unly reveal themselves in matter of atomic dimensions or less; the latter properties are known as purity, isospin, because and letter company and the nucleus by a powerful attraction. Since the neutron carries on charge, this force cannot be electromagnetic in origin. It has come to be known as the strong interaction. Unlike the electromagnetic interaction, it has a very short range. While it is very strong at a separation of a thousand-hilliouth of a metre, it has fallen almost to zero at a separation of a hundred-hillionth.

The croundinteraction field can be a manbaryon and lepton anmbers, hypercharge and, very recently, charm. A particle is completely specified by its position, velocity and these intrinsic properties.

The strong interaction field can be " quantized. In a similar way to the electromagnetic field, the anamium in this case having a timite rest mass, m=h/2 m r.c., related to the range, r_n, at the interaction; and it can carry a positive or negative charge (equal in magnitude to the electron charge) ar it can be uncharged. The discovery in 1947 of a particle, the pi-mesan, with the mass and properties predicted was a most significant achievement. macroscapic scole thesa reduce to the familiar Newton's laws. On the atamic scale, however, they receal a far richer content than anything Newton could have imagined. Indeed these laws of quantum mechanics—together with Coulomb's law of electrostatir interaction between charged particles, and a model of the atom in which a cloud of negatively charged electrons is pictured as anything account a missipely charged electrons is pictured as anything

Evidently the relation between particle and field is a subtle one. The quantum theory leads to the sssociation of particles (or quanta) with each field. All the properties of the field are reflected in the particle. Unlike the protons and electrons, the field quanta—photons and mesons—can be individually emitted at absorbed. Evidently the relation between particle and

The printons and neutrans are the lightest haryons. Similarly the planesons are the lightest members of a family of particles called mesons. In both cases the various particles la the family differ nat only in mass, but also in electric charge and in another property railed hypercharge.

The weak-interaction field, responsible for beta-decay, can olso be quantized. The quantum, called the W-particle, is expected to be very massive (at least 40 times the praton mess) and has not yet been abserved. All the well-known weak-interaction decay processes can be interpreted as being moderated by electrically charged W-particles. They are called charged current processes. When inneues nentrino beams breame aveilable from the large necelerators; neutrino interactions with protons and neutrans, minderated by bath charged and neutral W-particles, were abserved. The surprising implications of this discovery are discussed below. According to Einstein's theory of special relativity $E^2 = p^2 c^2 + m^2 c^4$, where m is the rest mass of the bady. The relation E = pc clearly applies for a particle with m = 0. The picture of two electrons interacting through the mechanism of the quantized electromagnetic field is therefore just what would be espected if a particle of zero rest mass veta emitted from one electron and obsorbed by the other electron (Figure 1). The transferred particle, which has come to be known as the phatant, is referred to as the "quontum" of the electromagnetic field. A single moving electron surmannied by its electromagnetic field is pictured as continually emining and realisorbing physions. Sometimes these "virtual" photons can even massislize two electron-postiron pairs, but these soon dissolva again into phanums before being reabsarbed by the parent electron. The electron must extend over a region of space exercised of the distance these "virtual" photons, etc, can reach during their fleeting life.

Particles such as baryons and mesans that Particles such as baryons and mesans that "see" the strong interaction are called hadrans. The electrons, muons and nautinos that see the weak interaction but not the strong interaction ero called leptons. The hedrans also see the weak interaction and, if charged, the electromagnetic interaction and, if charged, the electromagnetic interaction to. The leptons, however, cannot see the strong interaction, nithangh if charged, they can interact alcoromagnetically. The phaton is reloted only to the electromagnetic field. The "self-energy" of an electron due to its interaction with its own electromagnetic lied turns out to be infinite. These infinites can be removed in a rational way by the process known as "renormalization" so that meaningful results for electromagnetic processes can be predicted. The occurrecy of these predictions is extremely high; the value of the magnetic moment of the electron, for example, is predicted to be 1.001596553 magnetons compared with the measured value of 1.0011596577 magnetons I la 1928, when I began studying physics et

Elegant symmetry

One important espect of madern particle physics is that it reveals the great significance of symmatry properties in neture, and their relation to invariance principles and conservation laws. These relations ere elso known in classical physics; for example, the impossibility of distinguishing en ebsolute position it space implies invariance of the laws of natura against space transletion of the coordinate system, end therefore the conservation of momantum. The immeasurability of ebsolute tima implies the causervellon of enargy, and thet of absolute direction in spece implies the conservation of engular momentum. In 1928, when I began studying physics et in 1928, when I began studying physics et in Melbourne University, there were three thorn particles—namely, protons, electrons, and photons—and two known interactions, gravity and electromagnetism. Today only two more interactione are definitely established, the strong (nuclear) interaction and this weak interaction, responsible for beta radioactivity. But the number of particles has

In perticle physics, the invarience of the laws of neture under another type of transformation—called a "gauge" transformation—leads to conservation, laws for electric cherge; and for the total number of baryons and leptons in a system. These symmetries are all exact. Other symmetries, however, lead or all exact. Other symmetries, however, leed to conservation hut are violated in some typas of interaction but are violated in athers; for exemple, parity—related to the indictinguishability of left and right—in found to be conserved in strong interactions, but not in weak, so that the weak interaction can distinguish between left and right.

so that me weak intersorion can distinguish between left and right.

The strong interaction exhibits another type of symmetry. The hadrons form charge multiplets. For example the proton and neutron can be thought of as two charge states of the same particle, the nucleon; similarly particles such as the \(\Sigma\) hyperon and the pl-meson can be considered as being pasticly of negetively charged, or in a neutral state. The hedrons also carry the praperty known es hypercharge are plotted in two siams they group themselves into siams they group of 10 (decuplets) for the beryons.

The decisive breakthrough came in the field. Theoretical physicists became in the must be for must be could be formulated to the field. Theoretical physicists became in the field. Theoretical physicists became in the must be formulated the field. Theoretical physicists became in the must be found to field the must be could be formulated to the field. The must

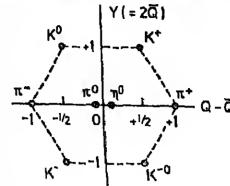


Figure 2. The classification of hadrans inta two-ilimensianal multiplets of rharge and hypercharge. The basic meson multiplet is shawn with hypercharge, Y. platted against the difference between the charge Q and the mean electric rharge (cqual to half the hypercharge, Y) for e charge unitiplet such as, far example, ucgative, neutral and positive pl-mcsons of given hypercharge. The particles farm an octet with two particles on the paint Y=0, end the charge equals the menn cherge. These mesans ell here spin O.

kypercharge. The particles in any of these supermultiplets can be transformed into each ather by ratoting the diagrons relating charge and hypercharge through 120 degrees. Their another property relied hypercharge.

The phaton is the quantum of the electromagnetic field, but since it is uncharged, it cannot liself generate such a field. The meson, on the other hand, is not only the quantum of the strong interaction field, but interacts strongly with the field.

The week-interaction field, responsible for beta-decay, can olso be quantized. The quantum tum, called the W-particle, is expected to be very massive (at least 40 times the praton mess) and has not yet been abserved. All

ferences between members of the multiplet.

Tha grouping of the hadrone into such supermultiplets is just what would be expected if they are built from three simpler entities knawn os quarks, together with their entiparticles, three oudquarks. The beryons are formed from three quarks, the mesons from a quark and an antiquerk. Despite many exempts in find them, quarks have never been observed directly; neventheless the ovidence for their existence is very errong.

The baryons and masons are not really fundamental particles—only the muorks are fundamental. The relationship of baryons fundamental. The relationship of baryons and mesons to quarks is much as the relationship of the niniccules of chemistry to the atoms of the periodic table, out the fundamental strang interaction field is the force between quarks. The nucleer force between proton and nautron, once thought to be fundamental, is related to the larce between quarks much es the Van der Wasle forces of chemistry are related to the coynient bending forces between atoms. Even the weak-interaction properties of nuclei, exhibited in their beta radioactivity, are basically properties of the quarks of which the neutrone and protons (nucleone) are composed.

The strong interaction between querks

(nucleone) ara composed.

Tha strong interaction between querks veries with their separation in an unfamiliar way. If the querks ere close together they behave like free particles so that, for example, electron or acutrino callisions with nucleons can be interpreted in terms of collisions with free quarks inside the nucleons. When the quarks try to separete, however, they ere constrained by a very strong force, just as though they were tied together with string.

Perhaps ane of the most important developments of recent years has been the realization of the deep significance of gauge fields for perticle physics. These fields take account of the forwardence, under ap-called "sauga transformations", by the properties of the field at each point in space, and also impose conditions that ensure that these properties link up in a consistent way between one region of the field and another. This ensures reginn of the field end another. This ensures that the came laws apply everywhere diroughout space-time—the uniformity of nature.

aut space-time—the uniformity of nature.

The electromagnetic field is e gauge field of a special kind (Abelian). Its quantum has zero mass, and does not inself interact with the field. Theoretical physicists became interested in gauge fields 25 years ago, but it seemed that when quantized, their quanta were massless. We know of only one massless quantum in nature, the ghoton. How could one then account for the massive quenta like the mesons and W-particles required for both strong and weak interaction fields?

the primod mass); the other was or less, it was natural to identify the massi-quantum as the photon. The positively- an negatively-charged W-particles could be teleptified as the heavy quanta required to interactions. In other words Weinberg had succeeded in unifying two of the fundamental interactions, the weak and electromagnetic fields.

The neutral W-particle (W°), inextricably linked with the others, leads to the prediction of weak-interaction processes in which the charges of the interacting particles do not change (known as neutral current) rent processes), a prodiction that was brilliamly confirmed in the study of neurino interactions using the "Gargamelle" hubble chamber of the European Centro for Nuclear Research in Conservation Research in Geneva.

Research in Geneva.

There is strong experimental evidence that suck weak neutral current processes involving Wo andy occur when there is no change of the total bypercharge of the hadrons involved in the interaction. This can be understood if one postulates the existence of a fourth type of quark carrying a new intrinsic property known as "charm". The existence of mesons and baryons carrying such a quark has been strikingly confirmed during the past few years in several different types of experiments. experiments.

At present therefore the fundamental par-At present therefore the fundamental particles af physics can be reduced to the four leptons (the electron, mooa, and two types of neatrings) and four quarks, each of which is believed to turn up in three "caloms". In addition there are the four quants of the unlfied weak and electromagnetic fields described above. The strong interaction field between the "coloured" quarks is also envisaged as a gauge field which, like the Welnherg gauge field, is of the so-called non-Abelien type. This means that the quanta lealled "gluons" in the case of the coloured quark lield) theoselves interact with the field.

At present there is great exclientent and interest in particle physics. The unification of the weak and electromagnetic fields through the Welaherg-Salem gauge field, and the demonstration by the brilliant young Dutch physicist ('Hooft of how such theories cen be "renormalized" to give meaningful quantitation results. cen be "renormalized" to give meaning in quantilative results for comperison with experiment, is inspiring a feverisit search for a senge theory that will include the strong interaction as well. We seem to be on the threshold of something great and significant, reministent of the curly 1920s immediately prior to the discovery of quantum mechanics.

Beyond quarks

What is the next step? Does our investiga-tion of the ultimate nature of mener stop with the quark? Are the quarks themselves composed of other outlies of an even deeper level? And if so how are we ta get at them if the quarks can never escape, being con-fined within baryous ar mesana?

Nearly 20 years ago physicists were speculating that it might be possible to obtain a thoory that folded in on itself (the "beatstrap") and did not require a deeper substructure to interpret the known particles. Thus a proton would be a combination of plend K mesons, baryons, etc., a pi-meson would be a combination of other plend K mesons, baryonanti-baryon pairs, end so on. One could then hope to obtain a set of interdependent self-constatent equations which had solutions corresponding to ell the particles. It snemed a very elegant possibility. Unfartunately it did not correspond to reality. Can auch a concept—sometimes called "nuclear democracy"—be epplied now to the quarke? The enswer to these questions will require

The enswer to these questions will require the use of accelerators producing particles of greater energy, and involving quester cost. Already about 25 per cent of ell money provided by the Belence Research Council not basic scientific, research in Britain goes into high energy physics. Of course this is only e smell fraction of the sum spent for all scientific research end development; but it is no wonder some scientific research to mention is no wonder some scientists-not to mention bacoming restive.

Neverthaless it would be indefensible to clamp down on this kind of research at the present time when we seem so close to a decisive breakthrough. The highly experienced research teams would disperse, and could be renssembled again only with great difficulty. The expertise could be lost to mankind.

what does the drive toward an under-standing of the ultimate nature of matter mean in terme of human happiness, of making the earth e batter piece for ell, where man to men as brothers can cooperate in using our knowledge for the benefit of all? We cannot say. We can be sure, however, that the quest for a deeper understanding of nature will continue es long es man himself.



Eleanor Marx, volume II: The Crowded Years, 1884-1898 by Yvonne Kapp Lowrence & Wishart, £12.00

With the completion of this second and final volume of her life of Elemor Marx, Yvenne Kapp has mode en outstanding contribution both to the etory of the later years of the Mark family, and to tha history of British socialism in its formativo years botween the each 1890s, and lote 1890s. Despito its formidable longth—and in sume places it could definitely have benenlaces it could definitely have benefited from cutting—this occount of Eleanoc's latoc years is compellingly readable. The depiction of the niembers of the Morx family, of Eleanor herself, of her more domestically oriented sister Loure and Laura's financially feckless husband, Poul Laforgua, ace lifeliko and convincing; and just as it the first volume Miss Kapp ao skilfully brought Mea Mack and the Marx brought Mca Mack and the Merk household to life, so in this volums, sho is of her best in recounting the tengleomic story of the Engels menngo in the yacce after Mark's

tho 1880s the Engels household curried on the supportive cole, which Eleanor's own family had formerly provided. But at the end of the decade, o tragic process of involution set lu. The familiar world which Elemor had known since her childhood began to dis-

since her childhood began to dissalve.

Helene Demuth, tha old Marx
family secvant, and Engels's housekeepar since 1283, died just as
Engels approached his sevantieth
birtbday. Increasingly lonely
through tha loss of his old feiends,
Engals imported Kautsky's young
ax-wife Louise to fill the gap left
by the faithful Lenchen. Eleanor
soon began to dislike Louise, whom
she suspected of creating discord
between Engals and hesself, and
her dislike turned to hatred when
Louiso married en ambitious and Louiso married en ambitious and solidly bourgeois doctoc, Ludwig Freyburger, whom the ageing and increosingly dependent Engels helisd as a brilliant physicion with an exceptional future. The Frey-bucger marriage was soon followed by a boby; Engels, approaching his last year of life, was forced to mave into a larger house, wholly domina-ted by the Freyburgor family, and isolated in a couple of rooms with a bell to ring when he required help. This insensitivity on the part of the Freyburgera was bitterly help. This insensitivity on the part of the Freyburgers was bitterly resented by Eleanor who had bean accustomed to regord Engals as a socond father, and led her to growing anxieties about the safety of the Marx family papers as Engels's heelth began to fall. Her pale, however, was immeasurably increased when Engels, on his death-bed, revealed to her that Freddy Demuth, always thought to have been Engels's neutral son, was in fact the always thought to have been. Engels's neutral son, was in feet the

Engels's neural pure, con of Marx.

For a daughter who had identified as wholly with her father sa Eleanor hod, this shock was lulolerable—not so much the fact itself, with the meanness; with which had

**Section of Mark manoscripts with a first prestring of her was entrusted to herself and Bernstoin, But Bernstelle in interprestring of her was entrusted to herself and Bernstoin, But Bernstelle in interprestring of her stoin, But Bernstelle in interprestring of her way. Without fuss, emission, But Bernstelle in interpretation of her herself and Bernstoin, But Bernstelle in interpretation of her herself and Bernstoin, But Bernstelle in interpretation of her herself and Bernstoin, But Bernstelle in interpretation of her herself and Bernstoin, But Bernstelle in interpretation of her herself and Bernstoin, But Bernstelle in the growing reversing entering to the Establish excellent interpretation of her herself and Bernstoin, But Bernstelle in the growing developing in the default flat in the structure of herself and Bernstoin, But But Bernstoin of Rise constraint, and the preparation of Rise constraint in the Rise constraint in the Rise constraint in the preparation of Rise constraint in the Rise constraint in t



Elennor Mark ju her fovourite dress of dark blue velvet.

unless given financial support may well have been, as Yvonne Kapp suggests, not the sols couse of her suicide, but the last strow in a sequence of dleastars, both pecsonal and political.

Nevertholoss, indispensable as Yvonna Kapp'a book will undoubtedly become, there are some important flaws in its conception. It is an important service to emphasize Eleanor's political life, and particularly its lasser known control life has a consequence. chapters like her assletance to the Silvertown rubber workers' sicka of 1889, her involvement in the eight hours' campaign and her work with Georga Barnes in the

anarchism or sectorianism on the left, but reformless and revisionism on the cight.

The growth of non-acctorian socialist organizations like the ILP had not lad to a triumph of Marxist ideas, but, lf enything, their increasing lneffectiveness at a day-to-day political level. In the situotiott, Avelling's dasaction and his remarringo (which ho perhaps throotened to make public unless given financial suppoct)

prise to the reader when, following an account of Eleanor's hvolvement in that Aveling hund deserted hec ond secretly remarcled and that Elsanor was foced with "utter ruin—everythelf to the loss of the reader when, following an account of Eleanor's hvolvement in the engineecing atrike, ve learn that Aveling hund deserted hec ond secretly remarcled and that Elsanor was foced with "utter ruin—everythelf to the loss of the reader when, following in the engineecing atrike, ve learn that Aveling hund deserted hec ond secretly remarcled and that Elsanor was foced with "utter ruin—everythelf to the loss of the reader when, following in the engineecing atrike, ve learn that Aveling hund deserted hec ond secretly remarcled and that Elsanor open disgrace". Young Kapp is skilful in dismaniling the increasing the foced with "utter ruin—everythelf the prior that Aveling hund deserted hec ond secretly remarcled and that Elsanor open disgrace". Young Kapp is a skilful in dismaniling the increasing the foced with "utter ruin—everythelf the prior that Aveling hund deserted hec ond secretly remarcled and that Elsanor open disgrace". Young Kapp is a skilful in dismaniling the increasing the increasing the foced with "utter ruin—everythelf the prior that Aveling to the loss of the condition of the condition of the condition of the loss of the condition of the condition and incomplete.

The second unsatisfying feature of this volume is its treatment of politics itself. Here Yvonus Kapp unswervingly followe Engels's positions, even when it is known that his sources of information were restricted or his judgments clouded by femilial loyalities. Engals's rather lofty condescension towards the admittedly muddled socialist groupings of the 1880s is reproduced in the guisa of historical interpretotion. But the unstated assumption of a superior Markiet alternative by which thie muddle is judged is never speit out.

her generation, to find an effec-tive way of connecting her sociol-ism to a pulitical practice. She threw her energies behind Will threw her energies behind Will Thorne's Gas Workers' Union (now the NUGM), and helped to found its first femole braurites. By the early 1890s the range and serious-ness of her political octivity, both agreed and international, was exnational and international, was extremoly impressive. At last a mass movement appeared to be growing, and she occupied an influential place within it. But this sense of forward movement was not to last. In the mid 90s there was a shift in In the mid 90s there was a shift in her position, not fully explained by Yvanae Kapp. She withdrew from the Gasworkers' executive, cojoined the Social Democratic Federation and appears to have come to terms with her old enemy, Hyndmon. She was now bereft of guidance from Engels, and without sufficient resources or allies to combat the growing manifestations of reformism and revisionism. It is perhaps for this reason that she retreated to the security of a grouping, which.

to the security of a geouping, which, however sectarian, at least remained formally Mackist.

In sum, the cich materials ossembled withlu this volume invita u more general question which Yvonne Kapp does not oak. The distinctive contours of a British socialist tradition were set during this period. From then until to least the Second Woold Was despite the Besselon in 1670. World War, despite the Russian Revolution, the imaginorian of what socialism would be like and the tones of the socialist critique of the

monts comained a very weak strand in this tradition, in the case of oli in this tradition. In the case of oil three of these welters interest in questions of proctical strutegy, in politicol ocganizotion, stote, Parilument oc closs millance were distinctly secondary in the priority of proselytizing o socialist vision. As Morris statod, when founding the Socialist Loaguo, "our sole business is to make socialists". Once the first genocation of sociolists gove way to a trade union bosed Labour pacty, the esciplist vision of the founders was relegated to a Utoplou slot, with little effect upon the peuticol conduct of lobour politica.

Tha ovidence produced by Kapp suggests how mony of these positions were in fact shared by Eleannr. Sha also was more concerned with makelast according to make use of in the property in taking sides in 1902 who fights for Charles I, One and Charles II; tekes the care twice yet professes considerations obout bit in the occiolist vision of the founders when the occiolist vision of the founders with a time of the property o

also was more concerned with muklng sociolists than with problems uf
socialist steniegy. Morkism in this
pecied represented a theory of copitalist society and its contradictions, but not o distinctive political proc-

Eleanor's work with the new unions carried her more and more into the mainstream of socialism at the time, since the salient points Eugels's netural son, was in feet the con of Marz.

For a datighter who had identified as wholly with her father as belieuro hod, this shock was in lock in the final feet the meanness, with which the meanness with the meanness with the meanness with the meanness with which the meanness with which the meanness with which the meanness with which the meanness with the meanness with the meanness with the meanness with which the meanness with which the meanness with which the meanness with the meanness of anerchism, emphasia upon labour on work with the meanness of anerchism, emphasia upon labour work with the meanness of anerchism, emphasia upon labour work with the meanness of anerchism, emphasia upon labour work with the meanness of anerchism, emphasia upon labour work with the meanness of anerchism, emphasia upon labour work with the meanness of anerchism, emphasia upon epecific to Marxists—the wrongness

Black Monck

Exhausted by military rule and gra-Cromweltlan ouarchy, in 166 Convention Parliament overaleingly agreed the resone Invited Chorles II house instrument of its meeting George Monck who, having being with Landon's squabbiling offer! macched his ormy from Scole anguged in conscience to see of country freed from that lotolers sluvery of n sword government

It was only the most record campalgn lu Monck's long solde. ing careec. At 16 he idul Codlz; ot 59 ha was generalated He wrote n book on the soldier ahead" In naval tactics; who yet died pencefully, a rich &

Ashley's book is a thorough at tive, without pretensions to e source material or interpret conse of the socialist critique of the coxisting socioty were strongly coloured by the writings of Morris, Cocpenter and Blotchford. In the case of Mocris at lenst, und to ulesser extent Carpenter, there was no formal hostility to Morxismand yet distinctively Marxist stoleo theilurn man of unlimide viousness, his letters discours of his polition beliefs than A.

calcul way. Tough gorens mactini law, exemplary pointents, and involvence with a doring civillan politicians wal toners. But at the Restorate

Ashley's monnerly baleachi Mochievellanism and mudding Mochiavallanism and nucleis soldier's professionalism and immindedness, is only holf an amindedness, is only holf and the local forms. And like ifolding the local forms, and like ifolding the local forms, and like ifolding the local forms were to voided through cich and portionally and sovereigns and a cigorously included the life in the local forms and an aminded life restoration was unconfident. It's restoration was unconfident.

the govornment of the mount of the mount of the man-it is the dilemma of the man-it is the who is not only caught between the compering powers but is in special powers. No man, least of the successful gaoaral who believed as soldiers should know fur what is soldiers should know fur what is soldiers and only out of the powers. soldiecs should knaw tur new fight, could opt out of the pile decision. Monck did not reliable burdau: In September 16:59 by dered, than withdrew, tlon; In November be start the cholic and daspairing. His seed dilamma rendered him and to contemporaries, to us, and the contemporaries are the contemporaries and the contemporaries are the contemporaries and the contemporaries and the contemporaries are the contemporaries are the contemporaries and the contemporaries are the contemporaries and the contemporaries are the contemporari

Importance of the accidental

The Economy of Europe in an Age of Crisis, 1600-1750

by J. de Vries Cambridge University Press, £8.00 and £2.95 ISBN 0 521 211239 ond 290503

Discussing in these columns the work of a distinguished economic historion of early modern Europe, the rise of the large city, the Professor Charles Wilson's The metropolis, during the seventeenth Transformation of Europe 1558-1648 century. There are a monther of (THES, June 11, 1975), I cemurked explanations for this phenomenon: on his understanding of the near- the administrative and social expanshapelessness of avents, of the sion around centres of government crucial role of the accidental in like Modrid, the Hague, Versellles; the unfolding of European history, the great prosperity visited upon Prafessor de Vites's subtle synthesis the Atlantic ports, Hamburg, onderlines the value of that Amsterdam, Rotterdam, Bristol; the approach and like all good syntheses construction of noval stations like for the shaded areas which it olso Certain Implications flowed from contains. He is dealing with a the emergence of these large units; period not easily identified or unigration to the cides from some unified, a fact of which he is well aware; indeed the book's greatest white is its demonstration of the manner in which some kinds of economic activity chanced to lead into a tangle of significant new developments. He is like the fisher to be merely a piece of flotsnot but to be merely a piece of flotsnot but to the cides from some dangers of easy generalizations.

Did the successful bourgeols include those who rose into the ranks of the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the aristocracy, did the successfol "former" still identify with his peasant background? As for the ar period not easily identified or migration to the cides from some is gradually revealed as an elabor- emergence of an army of middlestely constructed catch of the end men in England and France.

of England in the lose seventeenth southern England jurned increasingly to cattle vaising. Cropping innovations cambled the firmer to build up his livestuck bulgess and these some innuvations

eighteenth century would make the north-eastern roal fields the England a major grain expurier relaped along with a fleet of cofficers providing capital for reinvestment; has gradually coal came as replace and with a new rural structure wond or charenal in most industrial freeing labourers for the towns and processes until in 1709 Abraham adequate food supplies the country was well prepared for the rapid industrialization to follow,

Another example is faraished by s illumination is all the brighter Brest, Toulon and Portsmouth,

The problem of providing heat Cansider, for example, the case for the cities printured in the Low Countries a peot imhistry in the century when the price of grain hands of the urban capitalists. This and wool was folling and the in turn cucuuraged the growth of population was stuble. Dairy prices many fuel-intensive industries, were holding up well and farmers sugar-refining in Austerdam, linenbleaching in Haarlem; and the canal nciwork erented to ald the trans-purtation of pent also assisted the movement of Dutch agriculture. In England cual provided on even more dist made his farm suitable for significant solution to the problem low-cost grain production, a of providing fuel for the large populdevelopment which by the mid- intion of the rapital. Not only were

Durhy discoverest how to produce coke from coal. Seen in this light therefore, the great Eurapean city might be said to have spawned the Industrial Revolution rather than to hare been a product of it.

Professor de Vries's hook contains many such thought-provaking times of inquiry. He discusses the decline of states os well as their growth ing rigidity in techniques and institutions is olways a sign of oconomies in decline as it was in Vienna, Milon rising or declining peasantry and plexity of European life onl tho

of the interweaving of so mony separato strands that we marvel that any overall pattern can emerga can any louger be simply lobelled as that of the Industrial Revolution

The material in this volume is clearly set out with very few printing orrors and the book is equipped with a number of tables, rigores and maps as well as the usual bibliographical notes. Though it is not cheop at f8.00, neither, in these inflationary times is it especially expensive. That should usike the bunk towards the guot

A quantitative history of Europe

Commerce extérieur et dévelopment écommique de l'Eurapu au XIX by Poul Bairach

Maulon, 921: ISBN 2 7193 0-137 D

This study of European foreign trade and industrialization in the hineteauth century, carried out with great thoroughness by Prifessor Sairoch, Illusicatos the pitfolls of

This conclusion is reached pactly because the relationship between tariff policy suit rates of growth in netional product soon takes over frum the relationship between foraign trade and industrialization as the thems of the book. The cesuit is an enormous amount of conveniently processed dato and useful and at times fascinating computations together with doubtful bibliography contains no reforence to J. A. Schumpeter, Kondratiev, theorisis of the second This conclusion is reached pacily

correlations he finds between tariff pulleles and growth rates may reflect samu deeper movement in the European and world economy does not occur in him. His unbounded conflicted in the occuracy and correctness of his findings as well us in the traditional sectors. Here is findings as well us in the traditional sectors and light un present-day problems may lead the unwary reader to accept that the cunclusions do labour represented o "luss" to the follow from the data.

to J. A. Schumpeter, Kondratiev, theorisis of the businass cycie; he cyclical mavamants or the possible dology of the "new" ccumumic bloody of the "new" ccumumic bloody of the "new" ccumumic growth in the period of protection may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad little to do with the structure of the may have liad the conditions and copital had not been exported. While some of Balroch's conclusions are acceptable, but not changes in French training of the exported. While some of Balroch's conclusions are acceptable, but not changes in French training of the exported. While some of Balroch's conclusions are acceptable, with the may have a structure of the stru

Reat thorooghness by Prifessor Sairoch, Illustatos the piffolls of that type of quantitotive history of which he is an adem: it proves too much. He gives on important place to an examination of the "free trade on mutual lovering of lariffs by the European countries following the Anglo-French Tecoty of Commorce of 1860. Although the effect of changes in tariff policy is untit the only point of his study, it succeeds in dominating it. What the old point of Britain growth slowed down in the "liberal" portod and that tariff policy was thecefore the key variable.

This conclusion is reached pactly because the analysis of the contral of the succeed on the contrary of the countries with the exception of Britain growth slowed down in the "liberal" portod and that tariff policy was thecefore the key variable.

European ecunomy. This is based on the slowing down of granth in the statistical work is valuable in itself, Balroch has not taken a sufficient range of variables into accaunt. This is not to soy that the successarily and the contrary, it seems certain that free trade policy of free trade on mutual factory as a success for Britain in the 30 yeors after the square on the sounce of the contrary. It is also unquestionable that the square of the contrary it seems certain that free trade policy of free trade on the square of the square of the contrary. It is also unquestionable that the square of the contrary it seems certain that free trade policy of free trade on the square of the square of the contrary. It is also unquestionable that the square of the square of the contrary it seems certain that free trade policy of free trade on the square of the square of the contrary. It is also unquestionable that the square of the contrary it seems certain that free trade policy of free trade on the square of the square of the contrary. It is also unquestionable that the square of the contrary it is conclusions. The square of the square of the contrary it is conclusions are necessarily and the square of the contrary. It is also currence commony. This is based ou the slowing down of granth in the agrorion sector following tha may have begun to slow down in the 1850s but this con scaccely be accibed to the repeal of the Corn Laws.

Boiroch ulso omits to inquice into sectoral rates of growth, Profassor Prançois Cruuzer's Index for Franca shows sluggish performance in this paried for older injustries like textiles with more rapid rates in may industice subject to technological innovation like metals and chemicals. The problem could be that too many covourcas were pinned



CRITICAL IDIOM

General Editor': JOHN JUMP

'This is a samarkable enterprise, et once ingenious and estacious.... It will be elear that this could have been a set of dismal croimmers, and it is much to the cradit of the General Editor, John D Jump and his team that it tooks like being something much more estimated.' Times Educational Supplement.

MODERNISM 34

This book aels out to provide a workable idea of Modernism as a

MODERN VERSE DRAMA 32

This book provides a clear end wait illustrated analysis of modern varse drama—both secular and religious—with a study of the work of its chiat exponents, T S Ellot and Christopher Fry, end its place to the development of contemporary thenite.

THE PICARESQUE 33

This book raviews what ' picaresque' has marint to various ganerations of critics and provides a critical review of the word's elymology, and out of this discussion, a delinition of picarasque in a strict (ot Spanish) sense.

BIOGRAPHY 35

ALAN SHELSTON

Biography axplores aome of the ways in which biographers have set about their challenging task in the post-Ranolesance period and lovasificates aome of the problems implicit in this titerery

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A lively collection of papers studying various forms of popular theatre in Western Europa and the USA, from the comedies of sinclani Greece, through the traditions of the European Commedia delarts and American buriesque, to cutrent forms of theatre in England, Swadan and Finland.

THE ENGLISH LANGUAGE

This book provides an historical picture of the English language, both literary and cottoquiat. It was first published in hardback in 1949, and since then it has become firmly setablished as a standard lexi for ell eludents of English. There are chaplare on Inliexion, the shaping, building and ordering of words, and apating in relation to pronunctation, but the main amphasia le on the development of the English vocabulary—the most outstending legiure of the

University Peperback £1.55

A Roman mosoic floor c. 25 BC in an excavoled bause at Ampurias on the Gulf of Rosas, Costa Brava, Spain, pictured in the Atlas of Classical Archseology by M. I. Fluley, published by Challo & Windas at £8.50.

Anglo-Saxon life

Equations

Introduction to Portial Differential Equations by Gerald B. Folland Princeton University Press, ES.90 ISBN 0-691-08177-8

Modern Numerical Melliods for Ordinary Hifferential Equations edited by G. Hall and J. M. Watt Oxford University Press, £9.75 1SBN 0-19-853348-9

Elementary Differential Equations with Linear Algebra by Ross L. Fluney and Donuld R. Ostberg Addison-Wesley, £10.50 ISHN 0 201 05515 S

Partial differential equotions may he studied from very different paints of view, from engineering applientluns to abstract existence theory. Folloud's book comprises typed, informal lecture notes; but it is aill remarkohly stylish und elegant, tsking full odvantage of recents technical progress to present short, incinorable proofs.

There are excellent explanations of what is being done, and why h is slone. A bockground of about firstyear graduate level in anolysis is essumed and estimates and consiructive proofs are emphasized wherever possible.

After o preliminary omline convolutions, Fuurier transforms, distributions and compact operaiors, the theory is developed vio local existence theory (Cnuchy problem), the Laploce, fleat and Wave operators (all in complex o-dimensional space), and the Dirichlet and Neumann problems (using integral operators). The lust two tegral operators). The lust two chapters are concorned with Sobo ev spaces and elliptic operators. lev spaces and elliptic operators. There are many pleosing touches teg, the prunt of Welerstrass, apparaimation theorem using the Gaussian kernel); unlackneyed results (such as the theorem that elliptic uperators of odd under pre "rare"); und useful historical remorks (like the original, hearistic orgament for the existence of Green's function for a bounded domain).

Alingether, this is o most still Altingether, this is a most stimulating blend of applied function theory and functionod analysis. Physical concepts are emphasized, but no detoiled knowledge of physics is assumed; an index would have been useful.

The book edited by Holl oud Wall is based on lectures given at a summer school in 1975. It is in four parts, the first two dealing with initial value problems, and the other two with boundary value problems end functional equations. For initial value problems, a busic distinction is made between siff and non-stiff problems. Raughly, a system of ordinary differential equations is locally silff on some real interval of the independent—"time"—variable if some, but not ell, of the dependent variables fluctuate very rapidly on the "time scale" of interesting behaviour of the whole system. Examples necur in, for example, models of chemics kinetics, automatic control end The book edited by Holl oild kinetics, automatic control end electricol transmission. Anolytical definitions of stiffness are elso

Mony sleodard topics are treated acparately for sliff; and non-adiff problems. For instance, convergence and stability. Rings Kuita, Multistep. und Extrapolation methods; and comparison of various methods. The so-called simple so-called simple so-called simple so-called simple so-called simple so-called simple so-called so-cal effective algorithms are described.

Pinney end Ostberg's back covers a broad spectrum in modernt form (linear spaces and operators are used throughout, and controction mappings appear in existence pronfs). Topics include: systems of equations, elgenvalue problems, electronic and solid memory stability theory end series solutions around singular points. There are plenty of applications (mostly front mechanics).

J. S. N. Elvey

30013

Natural communities

Theoretical Ecology: Principles and Applications edited by R. M. Muy Blackwell Scientiffic, f4.80 In ecology as in other scientific disciplines, certain aspects become fashiouble at particular amounts in its history. At the moment considerable empluss is being placed on mothemotical modelling und its ability to capture some of the estential dynamic features of plant and animal populations. It is not in the least story is consecuted in the street in the surprising that much of the impetus for sun find an animal populations. It is not in the least story is consecuted in the structure rather than the stight of propulation parameters. In the middle chapters in the step up from two to the structure rather than the step up from two transfers and populations. It is not in the structure rather than the stru

Philosophy in physics

Quantum mechanics in its modern composite system is inform oppeared just over fifty years agu, after a long period of groping and fulse starts. It has served us methods which work well for, say,

Illowever, puzzling features some appeared, mainly through the unappeared, mainly through the unappeared, mainly through the unappeared, mainly through the unappeared, mainly through the unappeared matter of anomal tunn unechanics: only in very special circumstances does the lineary predict what will happen any particular occasion. The theory is usually much more madest, being concerned merely with the sing concerned merely with t

well. Its rid's are precise ond in where we can be sure that it has been correctly opplied, it has been correctly opplied, it has been correctly opplied, it has been in superb agreement with experiment. Most physicists are therefore content.

Illowever, puzzling features some stein, Pudolsky ond Rosen in 1935.

unswer, but even declared that such questions ought not to be asked.

Moreover, one of the more surprising and enthrolling new fentures was that—considered as a whole—a composite system is incomparably more than the more sum of its parts. One consequence was practical: if we apply simple anethrois which work well for, say, the hydrogen moment or malecules of

This is my only complaint. Professur d'Espagnnt writes with a
clarity very welcome in an area of
such conceptual difficulty. That
does not mean that the bank is
easy to read; the subject-matter
sees to that. No final unswers are
given, since no one has yet proposod any which enery universal
conviction. One is left with an impression of a small company of
able physicist-philosophors wrestling with some extremoly difficult
problems at the frontiers of our
understanding. This book is an
excellent account of their struggles.

Any reader who has enough text in the subject.

Any reader who his emaight buckground to start this book, and onough stanting to finish it, will find it very rewarding indeed.

John L. Martin

The behaviour of rocks

Fundementals of Rock Mechanics in J. C. Jaeger and N. G. W. Cook of Chepmon & Holl, £7.50

ISBN 0-412-21410-5

The arigins of rock mechanics es a scientific discipline in its own right lie within different subject areas. Historically, miners experienced by tried and error the practical difficulties of predicting ond controlling culties of predicting ond controlling conditions in ground openings. The ratallist of the design of the de

ground openings: "The salells of ground openings: "The salells of ground openings: "The salells of strata epitrol and subsidiance engingering have, therefore, primarily dovaloped ompirically, relating into the Vaiont Reserval of the properties of the text have ulso wave caused by perr of Mount cering have, therefore, primarily dovaloped on mpirically, relating into the Vaiont Reserval of the properties of the text have ulso been supplemanted.

This calastrophic failure of the ground the strata epitrol and subsidiance enging dovaloped on mpirically, relating into the Vaiont Reserval of the properties of a strate of mining operations and, particularly, the growth of open pitrolly and this arose from natural geological variability, together with differences in stress state and ground water conditions.

During the 1930a greater ettention was devoted to the systemetic state of the properties of intect rock materials by both mining ongineers and rock physiciats. It we rapidly appreciated that the behaviour of relatively smell rock spootmens has little rolevance to the mess propering in situ influence of plones of weakness steh as joints, bedding planes and foults. At the same

Plants

Plant Structure, Function and Adaptation edited by Mr. A. Hall

In the past few years it has become increasingly difficult to find a textbook for nodergraduate teaching in plant hinlogy which in the plant hinlogy which in the plant hinlogy which in the past in the plant Structure, Function and Adaptation, edited by M. A. Hall, 58th fies these criteria with Farying degrees of success.

In this new book, there are to change of the degree of the control of the farting with the change of the degree of th

chapters, each dealing with one specific aspect of plant structure and function. The range of topics s very wide, froot molecular and subcellular levels to whole plant and ecological ones. Attempts the been made to conservations. been made to cross-reference the material in individual chapters by

different unthors remain us disting entities.

The majority of the book falls within the realm of plant physiology and it is in teaching this subject that the book would be most useful. The chapter on water relations, for example, is one of the clearest explanations of a difficult topic near the mention is made of plant time to mention is made of plant time. available. It is most musual hat no mention is mode of plant discretion is mode of plant discretion in mode of plant discretion in the plant hormones are mentioned only briefly, since these topics ore such a lorge part of plant research work. On the other hand, it is guod to see photosynthesis treated at both biochemical and whole plant levels.

The chapters all bave similar formats, in that they swart if family stought level and rapidly pagress to a quite sophisticated discretion of the subject matter. However, many of the chapters as extensive reference lists. As whole, the bank could easily be used as a supplementary textbook and

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as a supplementary textbook as reference for undergraduates. cauld only be recommended for pe chase by students along with our pinch-mistry and ecology

Gauge fields

Theory by R. Arnowlit MIT Press, 111.25 ISBN 0-262-010-46-1

ISBN 0 282 D10-16 1

No elementary particlo physica can be manware of the explosion interest in quantum field theory which has developed over the partiew years. Must of these developments have involved the use of gauge fields and it is to this subject that the present volume is devoted in the present volume is devoted it contains 17 papers by some very distinguished unthors and cover areas such as infra-red singulatities, symmetry presiding; weak interactions, lattice models, supersymmetry, quontum gravity and soliton theory.

The papers were presented at soliton theory.

The papers were presented at soliton theory.

The papers were presented as still topical. This volume seems porticularly useful la this respettings is whether the information is still topical. This volume seems porticularly useful la this respettings of the popers are lother form of general reviews and constitute very readable introdections to various specialist subjects the book helpful end I would contain the near attempting of stempting and are students who are attempting of stempting of the popers.

mend it particularly to gradient students who are attemption

Reviewers

Tom Kemp is reoder in economic history of the University of Hall history of the Ereuch Economy and eathor of The French Rooms 1913-1939 and Ecunomic Forces French History;

John Knill is professor of engineling geology of Imperial College Lide don and edilor of lodusirial Geology Geology;

John Phillipson, reader in animal ecology et the University of Oxfact is enthor of Ecological Enargeries. J. H. Shennan is professor of European studies at the University of pean studies at the University of the Oxfact of the pean studies at the University Lancaster and is outbor of the gins of the Modern European's 1450-1725;

John Knill of King's College Cambridge and outhor of Outcast London.

30015

Winchester in the party Middle-Ages: An Edition and Discussion of the Winton Bunnesday by Frank Harlow et al edited by Martin Biddle Charendon Press: thanked University Press, £32.00 ISBN 0-19-813469-0

In the setting of early England no town is of greater interest than the tenth-century. Reformation, Winchester was the principal royal city of the Old English state. Even after the Conquest it retained important links with the royal administration being supplanted by Westminster as the chief repository of the king's treasure only in the 1180s. It is uppropriate therefore of the king's treasure only in the 1180s. It is uppropriate therefore that a team of scholars led by Professor Borlow and Marrin Biddle should have undertaken a detailed account of the city ducing the cleventh and twelfth conturies. By ony standards the result is a major work of scholarshin. It is safe to

Becsuse the commissioners undertoking the surveys recarded such names the text is "sn onomasticon without parallel for the period". Using this evidence Dr von Feilltzen gives a fascinating account of the origin of personol and hynomes in the city, their indication of untive and foreign elements, and the light they cest on family reletionships and occupations.

The Archaeology of the Anglosexxos
edited by D. M. Wilson
dichaen, £30,00
188N 0 416 18090 X

Some of the recent advances in
Ariglo-Saxon archaeology are
which assembles, with amthorituily
continentables, and interim exemvatilo reports. Because of the special
of progress in archaeological
research it is to be regretted that
the difficulties which beaut publication should have resulted in the
delay of the appearance of thesa
articles, comploted in 1972, mail
the very end of 1976.

The editor contributes an introduction, and two of his enrifier urticles slightly revised, un craft and
lodasity and on the Standinavlens
to agriculture and rural settlement
is also a davelopment of an earlier
study decling with tentative investiglibon inspired by the realization
that some Roman villa estates,
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Royal city

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Living on an estate

Medicyal Settlement: Continuity and Change the Conand Change edited by P. 11. Sawyec Edward Arnold, £19.50 ISBN 0-7131-5864-6

This collection of papers was first

there is no alonby of the mility and intellectual quality of most of them.

The most substantial section of popers deal with the pre-Conquest settlement of England. A major advance has come with the mast decade's work on manorial origins. We now have large estates, uften comprising 20 or 30 distinct settlements—"federal" or "composite" manors—presented es the normal form of, social organization in the sixth and seventh centuries. It is clear from the work of Geoffrey Barrow and Glanville Jumes that such estates represent the eorliest impression of organized lordship on the modleysl countryside. Alongaide this discovery there has come a new confidence in taking many of the settlements recorded in Domesday Book well back in time; thus Peter Suwyer, "the rurel resulting as they were in the eleventh". It may be so, but tracing settlements back in itself tells us very little. We want to know how the feileral manors of the seventh century became the uninery monors of Domesday. The dorkest age of English there is much of importance here. account of the city ducing the cleventh and twelfith century is a major work of scholarship. It is safe to say that no twelfith-century city in Engloud (and perhaps elsewhere) lins been analysed in such detail, and with such profitable results, ond with such profitable results, and is an advantage of the whole city, whose name is modern, comprises two twelfith-century surveys of the burnigh of Winchester. The first survey of cital of was undertaken for Henry I, and is an inquiry into the rayal lands of winchester. The second survey (148) is e survey of the whole city, made for the bishop of Winchester, Whatever the exect improse of the two surveys, they provide Important evidence un the wore valuable because Winchester if the London was multted from Damesday Book itself.

The texts which have been meticulously edited by Professor Barlow (with a volunible appendix on the more valuable because Winchester if the whole city, made and the wore valuable because which have been meticulously edited by Professor Barlow (with a volunible appendix on the feed of fendel lords, the infarmation which they contain it haskedity economic. They reveal, belaw the level of fendel lords, the infarmation which they contain it haskedity economic. They reveal, belaw the level of fendel lords, the infarmation which was an important part of this urbay world. In guilds, and with a final and mobile population.

An outstanding part of the examination of Winton Domesdey is mustion of world and which a final and world of the cannot world.

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We must shift more of our after-tion from the men who worked end the men who prayed to the men who funght. It is good to have Freder's paper on the rise of the scipmenre, as a remioder of the sophistication of recent French work in this area, Georges Duby to the force. Fors'er studies the implantation of fordship in all area of Picardy, the acquires studies the iniplantation of fordship in an area of Picardy, the acquisition of rights over "roads, houses and peasonts" as one of his charters and peasonts" as one of his charters puts it, in the period from 921 to 1150. The standard archaeological report, which draws every fragment of pot in loving detail, will often have as its historical section only the most sketchy of manorial descents. The force of lordship in sheping settlement, the relationship hetween the migration and desertion of villages and the nature of the lordship over those rillages, are metters that require proper investigation.

The volume is a delight to use, and has formotes at the bottom of the page when required. Both editor and nublishers should be congrounded on the high quality of design and layout. This is not a book to be reod at o skiling; there are too many sites, too many vuices clantouring for stiemlon. The reader should remember that he is of a conference, ivander out for a drink or there is much of importance here.

Edmund King

Science of time past

fission tracka, obsidian hydration, archeeomagneilsm, chemical analysis of bone, end various novel tests epplicable to culns, paintings and sculptures.

The bonk's subtitle is A Guide to Scientific Techniques but "labor-etory" might heve been a more family reletionships and occupations.

In loter chapters Mertin Biddle and D. J. Keeco use the material of the surveys together with archaeological end other evidence to examine the topography, structure of landownership, and sociel organization of Winchester during the eleventh and twelfth centuries.

The final impression left by this meny usera who emply the fevoured meny chronometric contections in the conventional "conventional" techniques in unscientific feshion. simply because they lack personal Pleming begins by cleiming that contacts with research loboratories. conventionel ercheoological deting" cen only offer relativo

chromitogles, but he makes ninplo amends by citing numerous exam-ples to the controry.

by Sinert Fleining
Dent, £8.95
ISBN 0 460 04241 6

Dr Fleming's nim is "to direct the general render's attention in the pith of each duting technique and line inuke him nworo of the complications and limitations researchers in each field have oncountered."

The problems that orise in the field ond in the mind of the lines in the control to the control to the excellent reason that they are ant central to the lines, wrong "dates get published, and Fleming's view of archaeology is naturally chough dominated by artifacts and individual skeletal fluids.

comprising a variety of cralts and guilds, and with a finid and mobile apparation.

An outstanding part of the examination of Winton Domesdey is Olof von Fellitzen's analysis of its personal and byname evidence. Because the commissioners undertoking the surveys recarded such manies the text is suppossed to the commission of the procedure of the procedure of the principles of the personal and byname evidence. Because the commissioners undertoking the surveys recarded such manies the text is suppossed to doting methods bosed on tree rings, radiocarbon, other the principles in its detailed the principles underlying the various chronology is fallowed by chapters devoted to doting methods bosed on tree rings, radiocarbon, other ra illustrated by cerefully chosen case studies, some of which remind the rection that Fleming is also the puther of the aplendid Authenticity

Regrettsbly, the book compares infarourably in price with other reviews of deling techniques on the market, and I con only lope it will

Claudio Vita-Finzi

VOLCANO AN ENQUIRY INTO

THE LIFE & DEATH OF MALCOLM LAWRY

<u>@</u>

A 99-minute film by National Film Board of Couada, 1976 Showing of Electric Cinema Club, Portobello Road (727 4992),

from 17th-20th April.
And at Electric Cinema Club, Portobello Road (727 4992),
And at Electric Cinema, 29 King Street, Covent Garden, W.C.2
(836 1426), from 21st-24th April.
For 16nim film hire enquirles, please ring 387 3230 or write to
5 Park Villoge West, London, N.W.1.



Classified Advertisements

Index to Appointments Vacant, Wanted and other classifications

Appointments vacant Universities Fellowships & Studentships Polytechnics Technical Colleges Colleges and Institutes of Technology Colleges of Education

Colleges of Further Education

Colleges and Departments of Art Administration Overseas Government Industry Adult Education Librarians General Vacancies

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AUSTRALIA

LECTURER IN

University of Sydney LECTURER/SENIOR LECTURER IN

particularly destrable.

The Department has on-line access to the University's Cyf

72 computer and is equipped

meal mini-computers of it

several mini-computers of its own. It olfers courses in Computer Science from the liest-year level through to the honours level, followed by an M.Sc. and Pli.D. programme. Appointed will be aspected to exist with instelling and carry out research of own choosing.

University of Teamsnia LECTURER OR SENIOR LECTURER IN MATHEMATICS

EDUCATION

The appointed will be responsible for the work,

in curriculum and methods of testhing, of those studeds who are planning to teach Mathematica in accondary or primary actions. The successful applicant will be expected to conduct research in topics relevant to this lich and should have and qualifications in Mathematics and Education and successful experience in teaching, preferably at more than one level.

13 May, 1971,

MODERN LANGUAGES

Universities

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THE KINGDOM OF SAUDI ARABIA **University of Riyad**

Applications are invited for appointments to positions of Lecturers, Assistant Professors and above starting October, 1977, in the following specializations:

Linguistics = 1 Famala.

Orema = 2 Specialists: 1 Male and 1 Female...

(preferably) in Post-Ranaiasence Drama, excluding

Poetry —Modern and Earlier Perioda = 2 Spacialists: 1 Mele and 1 Female.

Al all levels, candidates must have Occiorete or MA qualifications in their respective fields and have experience as reguler seeching statif in accredited

SALARIES AND ALLOWANCES

(Saudi Riyals per month)

Position	Selary*	Annual Inciamant	Housing Allowence
Professor (PhD)	6,000-6,500*	200	20,000 * *
Associate Protessor (PhD)	4,800-5,800*	200	17,000**
Assistant Professor (PhO)	3,600-4,600*	200	16,00011
Languaga Lecturers (a) MA (in Language Taaohing+Lsb Exparianoa) (b) MA (Female) in Linguistice	3,000-5,260	160	13,500**

Senelits: Tax free, free medical sarvice, annual pessage-peid (60 days) laave. Applications should be sent with our riculum vites and tasilmonisis to: The Oean of the Feculty of Arts, PO Box 2466, University of Riyad,

Riyed, Saudi Arabis.

Saudi Arabia

Ulster: The New University THE NEW UNIVERSITY OF ULSTER AND DEPARTMENT OF EDUCATION FOR NORTHERN IRELAND POST-GRADUATE STUDENTSHIPS (QUOTA AWARDS)

For the nondemic year 1977/78 the Department has allocated a number of quota studentiality for postgraduate research leading to the degree of M.Prill. Phil. and for advanced courses leading to the drawes of M.SriM.A. and also the Diploma in Continuing Education, Applications are invited for degree programmes in subject areas under the continuing and the continuing statement of the continuing

Applications are invited for degree programmes in subject areas der —
The School of Physical Sciences
The School of Biological and Environmental Studies
The School of Social Sciences
The School of Himanilles
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Application of the results of finel examinations for inputure degrees.
Application forms and further particulars should be obtified on The Registrer, The New University of Usiter, Colerains, Co.
nadondarry, Northern Ireland (quoting Ref: 71/50), to whom
applied applications should be returned not later than 13th May,
77.

THE UNIVERSITY OF LANCASTER

phera information Needs." The appointment will be for one year from the Establishment Officer, from September 1, 1977, at a salary of 22,804. Applicants should be able to communicate

enour os apis to communicate elisatively in writing and have a degree in education ond/or paychology or social science. Experiance in achoole would be on education.

lained (quoting reference L78/A) from the Establishment Officer, University House, Lancaster LA1 4/W. to whom! applications (aoven copies) naming three returnes should be sent to arrive not later that? May 4, 1977.

Applications are invited for the post of RESEARCH OFFICER in the Control for Educational Research and Development. The accepts of file will work on a little Library region Needs." The others information Needs." **ECONOMICS**

The University has asiab-lished a second Chair of Economics. Applicationa are invited from economists

In any brench of the disol-pilna.
Selery within the profes-sortel renge, minimum £8,108 per ennum, plua £459 per ennum London Allowence, Further informetion is evali-able from Aesiatani Sec-retary (Establishment), Stunet Univarsity, Ux-bridge, Middlesax, or fate-phone Uxbridge 37188, ax-jension 49. The closing date for applications is 80 April, 1977.

BRUNEL UNIVERSITY UXBRIDGE, MIDDLESEX PROFESSOR OF

n any brench of the diaol-

a Trobe University LECTURER IN ITALIAN Cardidates should be experienced in teaching both language and literature but may be intereded to praceeding beyond the traditional literary syllability. Minimum qualification: 8. A. (Horse) in Italian or its equivalent; caodidates with a higher degree and research interests may be given preference.

Candillates must be competed teach in liating and must be ulling to take part in the division's language teacher

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POSTDOCTORAL FELLOW-ELECTRON AND shown. GALABIEG tuntess otherwise stated; ore os lollows: Poeldodoral Follow \$A13,860-SA18,259; Benior Lecturar \$A13,850-SA18,250; Curter details, sondillons of appointment for each post, method of opplication ond application, may be obtained from the Association of Commonwealth Universities (Apple), 3s Oordon Square, London WC1H \$PF. ION DIFFUSION

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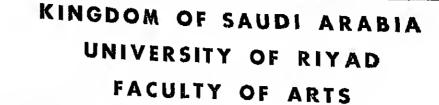
> BIOLOGY (PLANT BIOLOGY) School of Environmental &

University of Adalaids LECTURER IN LIBRARY STUDIES (Raf. 7.8)
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LECTURER IN POLITICS (Ral. 7.3)

The Lecturer should be qualified in the Italia of International Relations, the Politics of Advanced Industrial Sociation, of Advanced Industrial Sociation, of Contemporary Social Tubors, Applications from those specializing to other firlds may also be considered.

29 April 1977.



THE TIMES HIGHER EDUCATION SUPPLEMENT 15,4,77

Applications are invited for appointments to positions of Professors, Associate Professors, Assistant Professors and Lecturers starting Academic Year 1397/98 (1977/78). Applicants must be native speakers of Arabic (except for the

Position	Fillur helding Di C	Depulinani	Specialisation
PROFESSORS	Either, holding Ph.O plus 5 years of subsequent university feaching experience as Associate Professor plus publications acceptable to Blust University	Arabic	Grammar and Synlax
	OR. Holding Ph.O. Hus Full Projector little streets and and	Gaography	Bio Gaography and Soila* (1)
	hy a racognisad and accredited University.	Geography Geography	Economic Gaography 11)
•		History	Regional Gaography' (1)
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		Mans-Communication	(1) Sroadcesting [Redio] end T.V. (
		Sociological Studies	Sociology (1)
ASSOCIATE PROFESSORS	EITHER, holding Ph.D. plus 6 years of subsequent university leaching experience plus publications ecceptable to Riyed University, OR, holding Ph.O. plus Associate Protessor title already conterred by a recognised and accredited University.	Arabic Arabic Arebic Arabio Arebic	Gremmer and Syntax (1] Anoleni Arabic Litareture (1) Rhelotic and Criticlem (1) Literatura and Criticlem (1) Philology end Phonelica (1)
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		Masa-Communication	Advertising (Art)* (1)
		Sociological Studies	Sociology (1)—Femele Sociel Work (1)—Femele
Position A CCICT A B 17	Plv.D.,	Arebio	Anciant Arabio Lilerature (1)—
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PROFESSORS		Geography	Physical Geography (1)—Female
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		Sociological Studies	Societ Work (1) Societ Work (1)—Femela
		English Language and Literature	Modern Novel and Earlier Perioda®
		English Languaga ond Litaratura	Modern Poetry end Eerlier Parlods*
•		English Langusga and Lilarature	Modarn Poetry and Eerilar Periods' (1)—Female Orema—(prefarably) in Post-
		English Language and Literatura	Ranaisasnoe Orame, excluding Modarn Drama* 11) Orame—(preferebly) in Post-
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esition ECTURERS	M.A.	Arabio	Grammar and Synlax (1)-Fema
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		Engiteh Language and Lijeralure	Lingulatios (1)—Famala —
osition EACHING	B.A. (el legal Grade Very Good)	Gaography	Geography (1)—Femele Cerlogrephy (1)—Female

(1) Applications should be sent (Registered) with curriculum vitae, testimonials and academic qualifications (unreturnable) and cartilled by the Foreign Ministry and the Saudi Embassy and marked "Employment Applica-

The Dean of the Faculty of Arts, P.O. Box 2456, University of Riyad, Riyad, Saudi Arabia

- (2) Only applicatione received within one month from the date of publication of this notice will be considered.
- (3) Candidates chosen will only be notified at their enclosed address.

Saudi Arabia



UNIVERSITY OF NATAL PIETERMARITZBURG

DEPARTMENT OF MICROBIOLOGY

AND PLANT PATRICLOGY

PROFESSOR and HEAD of

THE DEPARTMENT of

MICROBIOLOGY

and PLANT PATHOLOGY

Ave experience in teching and research and an ability to initiate research and superviso postgradueta students. Candidates should hold a doctoral dagree and should

The snnual selery scale attached to the post le R11,250 by R450 to R12,800 by R600 to R13,600 pits 10 psr cent pensionable allowence on stendard salery

The commencing salary noich on this scele will depend

on qualificatione end experience. In eddition, an

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Application Jorms, further partidulers of the poet end

infermellon on panalon, medidel aid, etati bursery, housing loan and subsidy achemee, long leave con-

ditions and travelling expenses on first appointment are obtainable from the Registrer, University of Netsi, P.O. 8ex 375, Pietarmaritzburg 3200, with whom eppil-

cellens must be lodged not leter than 30th May, 1977, qualing reference PMB 17/77.

UNIVERSITY OF DUNDEE

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Applications are invited from suitably qualified persons

Universities continued

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LEEDS

Application forms and fine-tier nathulars are available from the frapitar, the Gui-versity, Leeds 182, 941, another reference another 57, 1, 111, 1 tosum date for spotications (a) 1000, 1977.

LONDON

THE UNIVERSITY

GOLDS VIETES TROUBEGR

60ROOK OF IROMANITIES AND

Universities continued

OVERSEAS Teaching Posts

CONSULTANT IN ELT MATERIALS (iNDiA)

Central fustiliste of English and Foteign Languages, Hyderabad. To sestet in the production of English Language Teaching tadlo (with some TV) metariels in the Radio/TV/

matography unit. Candidates should be over 30, with releven) oducational broadcasting experience to enable them to contri-

bute to post graduele tesearch and Selary: £5,210 £8,350 (dapendan) upon qualifications and experience) plus 10% inducement allowance. Benetile: Free furnished accommode-

tion; oversese end children's ellowen cea; medical benefits; superannuation 2 year controct.

LECTURER/PROGRAMME ORGANIZER IN ELT AND ESP (AISIMUT)

The English Department, Bourgulbs University of Tunis.

To direct a meteriets production learn and leclute in ELT and ESP. UK degree, postgraduate qualification in ELT and at least 5 years experience in ELT and ESP including metarials production, essential. Good knowledge of French end/or Atable deelteble. Preferred ege range 25-40.

University of Singapore

ENGLISH LANGUAGE

AND

LITERATURE

Applications are tryited for teaching appointments in

the Department of English Lenguege and Lilerature. Preference will be given to cendidates with relevent

teaching/research experience in American Litoteture end 16th Cantury Litetature. Applicants should also

Gross monthly emoluments in the range from S\$1,390

to 3\$4,750 epproximately, the initial amount depending on the cendidate's qualifications and experience, and

the level of appointment offered. The grose emoluments comprise basic selery and the Netional Wagss Council wags ellowences, in addition, the University pays a 13th-month conuci ellowence of one month's

selery in December of each year, end contributes to the

atsif members' provident fund et 15 per cent of basic selery end allowances. Leave, medicel, subsidized

Univaralty housing and other benstits era elso avail-

Cendidates should write to : The Registrar. University of

Bingapove, Singapore 10, giving curriculum vitae (blo-data), with tull personal particulars and elso the nemes

data), with turi personal pates.

give brief details of other fields they can teach.



Salary: £5,210-£7,054 pa + Benetile: Fise accortimodation; ovsisaes end children's silowances end other benetits. 2 year contrect renewable.

SENIOR LECTURER IN LIBRARY SCIENCE

(BRAZIL) University of Brasika, from August, 1977. Master's Dagree with training/axpetiencs in British library systems. Age renge 30-40. Single applicants pre-lerred.

Salary: £12,000 ps.
Benetils: 18 month contract, 45 days lesve pet annum.

TEACHER OF ENGLISH AND ADMINISTRATIVE OFFICER (SENEGAL)

The British Institute, Dekar, To teech English, Including English by redio, to edult students, end assist with examinations and general admini stretion. UK degree, post-graduete quelitication in TEFL or applied linguislics, sevarel years ELT experience and lluent French seeentiel, Experience of lesting, record keeping, examination writing and English by radio desirable. Salary: £4,569.£6,818 + 10% induce-

ment, Benefits: Free eccommodetton; oversees end children's ellowancee end other benetils. 2 yest conitect renew-

Return feres are paid. Local contract is gueranteed by the British Council. Please write, briefly stating qualitications and length of appropriate experience, quoting relevent relevence number and title of post for further details and en epplication form to:

The Brilish Council, (Appointments). 65 Davies Street. London W1Y 2AA.



Applications are invited to: the following appointments:--

LECTURER IN AGRONOMY

In this appointment, which is within the Department of Agriculture and Horliculture, preference will be given to candidalss with an littorest in crop physiology. Rol S07

LECTURESHIP IN FRENCH

Applications are invited from persons able to take classes in French ptose, irensietion, assey end analyso de lexte and to do specialist teaching in 19th century French literature. An interest in modern methods of language leaching and in Franch Institutions aince the Revolution will be an advantage. Rel 508

LECTURESHIP IN HORTICULTURE

Ret 509

LECTURESHIP IN INDUSTRIAL ECONOMICS

Preference will be given to cendidates with a special nletest in Menegement Studies. Rel 510

LECTURESHIP IN THEORETICAL MECHANICS

The duties of this post will include the teaching of Methemetics to Engineeting students and to Honours Degree level to eludents in Mathemetics-will-Engineering. Rel S11

LECTURESHIP IN ZOOLOGY

Applicants should have research experience in one or Nourosecretion, Synaptic Physiology and Phermecology and Neurochemistry. Ret 512

These appointments will be effective from October 1. 1977, and each appointment will be made initially within the first three points of the lecturer scale: £3,333, £3,547

Forms of application, roburnable not later than April 25, 1977, and further particulars, from the Stall Appointments Officer, University of Nottingham, University Park, Nottingham NG7 2RD.

UNIVERSITY OF PETROLEUM AND MINERALS DHAHRAN, SAUDI ARABIA

The Department of Civil Engineering, University of Permileum and Minerals, Dhuttrun, Sandi Arabta, with trave faculty posttious open for

ASSISTANT PROFESSORS ASSOCIATE PROFESSORS and PROFESSORS

fut the acedemic year starting September, 1977, in the ereas of Structures, Materiate, Transput)ablen, Surveying and Construction Monagemen). Condidetes with PtiD degrees and sufficient teaching experience will be constituted.

Minimum regular combract for two years, competitive sets the old allowances, free all conditioned and furnished housing, free air transporation to and from Dhahran each two year tour. Attractive educational assistance grants for school age dependent children. Local transportation allowance in cash each month. All earned income without Soudi laxes. Teamonth duty each year with two-month vacation paid and possibility of participation in University's ongoing summer programmes with adequate additional compensation.

Since personal interviews of prospective candidates with be held at the end of April, 1977, apply urgently, will complete resume on scademic and professional background, itst of reference, a complete list of publications with clear indication of those papers published in referred professional magazines and/or journals, research detaits, and with copies of degrees/testimonials including personal data, such as home and office addresses, telephone numbers, family status (wife's maiden name, names of children, ago and sex) to

UNIVERBITY OF PETROLEUM AND MINERALS C/O GABBITAS-THRING SERVICES LIMITED Broughlon House, 6, 7 and & Sackville Sitest Piccadilly, London W1X 2BR

DIRMINGHAM THE UNIVERSITY DEPARTMENT OF MUSIC optications are invited to:
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BIRMINGHAM THE UNIVERSITY DEPARTMENT OF PRYCHOLOGY

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UNIVERSITY OF HONG KONG LECTURESHIP/

ASSISTANT LECTURESHIP IN ARCHITECTURE

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> Association of Commons Universities (Apple), 89 Oorden Square, London WCIH OPF Assistant Seerslan (Recruliment). University of Heng Keng

Closing date for seplication 24 May, 1077.

NAIROBI-KENYA

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DEPARTMENT OF

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Nelsobi, PO 60x Series lastical is in Konya. Applicants saided in it is should also send 1 copy to later university Council, 90/91 loter ham Court Read, Lordon Without Colf. Further particulars carl in obtained from either address.

BOTANY

PRINCIPAL and VICE-CHANCELLOR UNIVERSITY OF

per ennum.

Treasury ragulations.

The University is proceeding to the appointment of e successor to Principal Jemes Drever who hee intimated his intention of retiring in September, 1978. The Committee eet up by the University Court to nominate his euccessor would be pleased to hear of any persons who might be considered for this eppointment, whether by personal application of by nominelon from othere.

All bomunications will be treated as strictly confiden-but and should be addressed to the Chairman of the Committee Mr. D. F. McCurrech, core of the Socretary of the University, The University, Dundee DD1 4HN.

WIVERSITY OF OTAGO Dunedin New Zeeland

lecturer or SENIOR LECTURER IN ACCOUNTING

ASSISTANT LECTURER IN ACCOUNTING

opterious are invited for a vac-ni position in the department (According and Finance within the Facility of Commerce, The speciments. The family of Commerce. The provided and may be made at the and of being Lecturer, Lecturer of Being Lecturer, Lecturer of Advisor Local Park Lecturer. At Advisor Local Park Lecturer of Advisor Local Park Lecturer of Park Lectu

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E MINGHAM IVERALES

University of Water

LECTURERS PHYSIOLOGY-

LECTURER ELECTRICAL AND

LECTURER TOWN PLANNING especta of urban and loca

Balary : £3333 to £6655 Requeels (quoling Ref. THES) for details and application form to Parsonnel Section (Academic), UWIST, Corditi CF1 3NU

(1) water bright and low regimes of urbanized floor tains in Greater London (Dr. 1). E. Holles Casu Student-ship with nu Department of Poblic Healin Engineering, Greate London Council. 12: the terraces of the fiver transpoond related deposits northral Lundon (Professor 1), Brown;

DEPARTMENT OF TRENCH

UNIVERSITY OF MALTA CHAIR OF ECOHOMICS

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COLLEGE—KENYA
(A constituent college of the
University of Wolcob)
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UNIVERSITY OF WESTERN AUSTRALIA

COMMERCE icellos are invited for the wing six appointments in the miment of Commerce;— ORGANISATION OR MANAGEMENT STUDIES

Visiting Banior Lecturer or 2 years from January, 1878 Lecturer and Tutor ACCOUNTING OR FINANCE COMMERCIAL LAW

CADDIFF UNIVERSITY CONTESTS

CARDIFF

John's College, Durham Dill

Applications are invited for temporary LLCTURESHITES in COMPARATIVE LATERATURESHITES in COMPARATIVE LATERATURES IN MARKET AND STATEMENT OF THE SECTION OF TH

HERIOT-WATT UNIVERSITY.

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revence will be given to gradu-ates with teaching or supervis-sory esperience and an in-terest in health care or pro-bettom. It is the most the tipe the the post by the bounding of the post by the bounding Balary scrip Term.

Balary scrip £3,33-26,855
P.a. pius £350 London Ailows

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UNIVELISITY COLLEGE Application are invited for the post of LECTURE in the OFFICE AND APPLICATION OF THE APP

Applications live replac), in the same and addresses of two referees should be forwarded to vice-should be fadministration and foolsies. University College, 1.0. For whom further particulars may be settlined.

Closing thio, 25th April, 1977. Places such refreences

ST. JOHN'S COLLEGE PART-TIME TUTOROUGH This Church College Invites anomaries for the post of Partitions Tuber to be hold in connection with a Reasarch Studentship in the linewestity of Durham from October 1977, Non-thoological subject preferred, but theological subject sectopiation.

EAST ANGLIA

EDINBURGH

LONDON
CHELSLA COLLEGS
LONDON
LECTURER—SOCIAL WORK
STUDIES

HEAD of DEPARTMENT within Faculty of Engineering

Applications are invited for a Cheir and the Headship of a Departmen which will become vacant on the relirement of Professor O. A. Wait tield as Hand of the Ospartmen) of Electronic and Control Engineering

The Institute intends to dovelop strongly its work in the Electrical/ Electronic field of the level of postgraduate research, design and teaching. The Department will be the main focus of these solivities, and will have blrong links with industry. The Head of Cepatiment will be expected to develoe juilier that

Department, give leadership in research and teaching end in extand-

ing links with industry. Encouragement will be given to develop

the institute's work in this field, in oppropriate new discitors.

Further particulars may be obtained from :--

Cranfield Personnel and Organization Officer, Cranfield, Institute of Tachnology, Cranfield, Badford MK43 OAL.

CAMBRIDGE CAMBRIDGE INSTITUTE

OF EDUCATION

Applications are invited from authorized to parteness and qualities men and women for the post of TUTOR IN THE EDUCATION OF CHILDREN WITH LEARNING

DIFFICULTIES as one of steam of three tules in this lielo. The Institute provides full-lime diploms coarses at Cembridge and Chaimslord and peri-lime courses cased at Politate and March. The present appoints to the post will be besed in Cambridge, will abso in the teching of the full-lime courses in Cambridge and have tulorial responsibility for this group of students and will be responsible to the partition of the partition of the course in March. Selary in the range 24,407-27,007.

Further particulars from the Osc-relary, Cambridge Lastitute of Education, Challasbary Road, Cambridge C82 25K, to whom application Journa should be re-turned by April 28, 1077,

UNIVERSITY OF OTAGO Dunedin, New Zealand LECTURER OR. SENIOR LECTURER

IN MAORI applicetteas ers invited fo esition of Lectures or t acturer in Maeri. Salary scales | Lecturer N259.000-311.100 per ennum | Senior Lec-lurer N2511.500-514.250 per ennum with e ber at \$13,250 per onnum A cost-of-living atlow-

Further perticulars are available from the Association of Commonwealth Universities (Apple.). 38 Outdon Solete, London WCIII-OPF, or from the Registrar, University of Otaco, P.O. Box 65, Qunedin, New Zealand. Applications close on 15 Msy, 1877.

Salary on scale \$2,914 to \$3.761 (Associator/ \$3,335 to \$4,761 (Follow), plus super-

Applications are invited from entably quartied men and worked for a LECTURESHIP in MANON TO THE TOTAL TO A CONTROL OF THE PROPERTY OF THE PROP Co.608, plus superannuation.

BUCKINGHAM University College : ACCOUNTING:

Benjot Legurer of Lacturer (Dctober, 1977) To help initiate a new Ochool of Accounting LAW: Two Leclurers | One in Hevenue Law. July 19 | One in Octobel: 1971) MATHEMATICS & STATISTICS: Lecturer (October, 1977)

To touch students of Economic History and Accountants (Sechground in a social sch resided) ENGLISH LITERATURE: Lecturer (January, 1978) |Spacialist In Uterature

APPLIED BIOLOGY (2)

BIOCHEMISTRY FREBHWATER ALGOLOGY

ELECTRONIC ENGINEERING (Digitat Systems)

the status bins supple.

LONDON ENIVERSITY COLLEGE The DEPARTMENT of SEC-HAPITY INDUSTRA TO Allustic EASTURAL ENVIRONMENT

The analysis are tenable from Deluker, 1977, Juriliur delillo may be obtened from the Openium Advistr, Repriment if Leduralmy, University Col-lege London Goyete Bred, London Wille Dell', Applica-

MATHEMATICS

PriD Nudonia in inte/her eros of specialization.

Selety ecale: K£3,600-K£4,120 p.s., K£1:-£1.38 stelling). The Billith Ocvernment may supplay the billith Ocvernment may supplay the property by £3,022 p.s. (stering) for mariled appoints or £2,704 p.s. (stering) for mariled appoints or £2,704 p.s. (stering) for mariled appoints of elitex) and plovide children's education allowance and holidey visit passages F5SU; lamily passouse: visite elitexance. Ostellad applications I two copies) including a curriculum vilse and naming these televaes should be sent by oir mail not later then 12 May, 1977, to the flegistro information of the later then 12 May, 1979, to the flegistro information of the later then 12 May, 1979, to the flegistro information of the later the send one copy to inter-University Council, 90/61 Totionham Court Road, London WIP OOT. Fueller perilculate not be obtained from oither oddings.

Buistor

THE UNIVERSITY

LECTURESHIP IN

The Department of Economics invites applications for a post of Lecturer in Grone metrics.

BRESTOL

THE UNIVERSITY

UNIVERSITY OF NAIROBI-KENYA Applications are invited for the **ASSOCIATE PROFESSOR**

In DEPARTMENT of Applicante oliculd Irold a PtiO I Puru Mathematica, Applie Putu Mathometica, Applied Methohetics or Mathometical Stilletics. They should elso hove a long successful tocord el losching and topocroti experience of University lovel. Appointee will be especial, in eddition to underpredunte losching, lo cupatvise some MSe end PilD Nudonis in hte/her erea of specialization.

Turner of Seniet Tuler
The Department oilers BCom,
MCom and PhO dogross in addiJion ig n otrong MAP programme,
Rescerch interests are expected
and encowaded. Further Informallon is available from Professor Roy Lourens, Head of the
Department. Ceparimoni, Department of Alpo Ceparimoni, Durteni asiary ronges dio: 8 anior Leoturer \$A13,795 to 22,010; Leo-lurer \$A13,795 to 12,860; 8 anior 100 \$A13,860 to 13,667; Tulor \$A0,873 to 11,488, Parmanent conditions o) eppointment would include appearances of the capacity of the capacity and the capacity are to Perin to Sanior the capacity are to Perin to Perint of the capacity are to Perint of the Capacity and the Capacity are to Perint of the Capacity and the Capacity are to Perint of the Capacity and the Capac almilar to 7-50., lores to Perinlor appointes and dependent lamlity, removal a flowence, aludy
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up to \$A1,700. Shorter-term vis-ting apopiniments are also evaliable from time to time for well-quelitied eccelentics in eny of the above area. Applications in duplical setting full personal perticulars, queliti-cations and experience should reads the setting Offices, Univer-ally of Western Australie, Nad-lends, Western Australie, Nad-lends, Western Australie 5009, by Mey 14, 1077. Candidates should request three rotores to write immediatoly to the Stelling Offi-col.

BRISTOL THE UNIVERSITY NESCARCII ASSISTANT IN The position is tened o from

Further particulars may be obtained from the Secretary Liniversity of Bristol. Sonate House, Bristol 658 171, to whom applications should be asnt by 2nd May.

BRISTOL THE UNIVERSITY

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CARDIFF UNIVERSITY COLUMB

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NORTH WALES DINIVERSITY COLLEGI DEPARTMENT OF DRAMA Applications no invited incline post of PROFLEBOR and HEAD of the DEPARTMENT OF DRAMA

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SUPPRIELD THE UNIVERSITY LECTURER IN VIROLOGY Applications or invited from scientifically or modically qualitied up on or comen for the post of Lectures in the Department of Virology in the Lectures will be reached applicant will the reaching and virology to Science and seed of Virology to Science and seed or proputation for research and componentials for research interest in timour viruses would be an assot,

SHEFFIELD THE UNIVERSITY DEPARTMENT OF SOCIOLOGICAL STUDIES Applications are invited for a LECTURESHIP in GOCIAL ADMINISTRATION. In GOCIAL ADMINISTRATION IN GOCIAL ADMINISTRATION IN GOCIAL ADMINISTRATION IN GOCIAL ADMINISTRATION IN CARDONAL PROPRIATION OF A CONTROL OF A CO

Applicants about the readu-oles preferably with know-ledge of the work of the social services. In this satury in the range £2,373 to £4,811 on the scale £3,373 to £6,655



Universities continued

THE OPEN UNIVERSITY TAGULTY IN ARTS

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further particulars and publication forms are available, young are regions plustered. The Personnel Manager 1813; The Open University, etc. tigs 70, Walton Unit, allion Keynes MR7 6AL or beliaphening Million Keynes AR7 6AL or beliaphening Million Keynes, allions, 20th April, 1977.

WALES THE UNIFCHSITY UNITERIORY COLLEGE OF LECTUMERS

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The appointments, which use lensite from October 1, 1977, will be made at the lower and of the scale \$3,335 to 15,115, per amount, legather with USAUSDIPS tenefits.

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The appointment, which will dule from Ociober 1, 1977, will be made at the least and of the scale \$2,333 to \$6,633 ure ennum. 1990 her with USS/USD148 benefits.

Further particulars and application forms (lwo copies? for the above positions may bu outlined from the Personnel Officer. University Collogs of Swensee, Singlate Perk, Gwansee, Ra Alip, to whom they should be rejumed by Iriday, April 29, 1977.

Fellowships and Studentships

> WARWICK THE UNIVERSITY IN OPELATIONAL RESEARCH

Ambications are: nyline for Tenionarary Lecture/hip for Tenionarary Lecture/hip for Operational Resolution of the School of Industriet and Business Studies, toneble from Lai Jupy, 1977, for one year Candidates should held a seed Honours Oegrap, and/or postgraduals Studiestons, mainly in the eres of nathematical programming and its napitality. Bolary on the first four points of the Lecturer Schie, 25,552—125,978) to 26,650 por santum.

Application forms one tur-for cardiculars from the following from the policy of the control of the following reference number \$41, Quoting reference number \$41, Quoting reference number to control of the control of the policy of applications is 6th

Middlesex... **Polytechnic**

NERC (CASE) Studentship

Applications ere invited for a research anything language within the Geography and Pletning area: of the Polylechnic, to investigate, the derivation, end use of weler quelity inclose in under catcliment menagoment. The sward, to commence from 1 September, 1877, it to be held in collectorellon with the GLC Public Health Engineering Department.

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Public Health Engineering De-pariment should pragess a good hopsure degree in environ-mental science, geography, olvit engineering or other apprepriate subject and have relevant apprepriate and interests within the lioid of water quality and re-sources. The successful cendi-dats will be expected to regular for a higher degree of the CNAA. The studentship is for a period of up to three years and carries the usual conditions of NERC blu-dentablips.

Cleaing dats to eppecations:

May 9. Letters at application giving full surrigum vites to: Mrs A. Saymour, Middlesser Polysichinic (rel. A300A), The Subraghs, Hondon, London NW4 487, Illim whem turther details are evolleble.

UNIVERSITY ROFYORK

CENTRE FOR SOUTHERN AFRICAN STUDIES

Research Fellowship

Applications are instead for the post of Research Fellow in the Centre for Southern African Smiller vacant from I October, 1977, for a period of two years. A first degree in Jeonamics, History, Politics or Sociology would be an advantage as would a special Interest in Angola and/or Mozambique.

Storting salary within the range 12,404-£3,761, with USS. Sis copies of applications, noming three referees, should be sent by Friday 6 Jlay, 1977, to the Registers, Hubbersh of York, Hesthoeton, York, YHI 511D, from whom further details may be obtained. Please quote reference manher 6/668.

> SHEFFIELD THE UNIVERSITY

POSTGHADUATE SCHOOL OF Liftharianship and INFOHNATION SCHENCS

Applications are invited from well-qualified praduates for consideration for the oward of research students for the consideration for the oward of research in the well-qualified for the consideration for the construction of th

skin and rosidence require-monio. Current research in lise achoni includes studies of com-puter-based information storage and roiroval systems, opplica-tion of information theory in information theory in information theory in authority social services in design, information services in factal sutherity social services detarinated as well as work an computer-based chotarial in-formotion storage and retrieval systems.

THE UNIVERSITY DEPARTMENT OF PITYSICS PORT-DOCTORAL RESEARCH ASOIST ANTSHIP

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copies) and for the Suugatabip logether with the norms
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to the Registrar, The University
of Muli Hull Hull 778X, befor 10th May, 1977.

Polytechnics

SHEFFIELD CITY POLYTECHNIC

Ospariment of Economics and Business Brudies PRINCIPAL LECTURER IN ECONOMICS A vacancy exists for a Principal Lecturer in Economics, to share temporalbilities of Subject leader in bonomics. Applicant

conjects leaver in economica. Applicants of the conjects and a higher qualification. In economics and should have appropriate resurch and consultancy experience.

Genery Boste: 22325-25954 [par)—27898
Closing dolo: 80th April, 1077 Capariment of Health Studies SENIOR LECTURER IN .

Applications are invited from qualified mass trachers, RMI or HVT, prejarably graduates, for a silmutating and challenging opticities and anovative department. The successfur candidate will be enquired to teach on a ronge of sources, appropriets to their experties and intensity, and to contribute to the development of new courses; a fasting and other disciplines withing the shall field.

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RESEARCH ASSISTANTS

Applications are invited for the following research posts available from 1st September 1977. Up to cleven uppurntments will be made from among the orons listed.

Art and Design Design Theory. Book Typography. Engineering

Steem Flow in Nozzles.
Foilure Critorio for Weldod Joints. Humanities

Language and Ideology in the CDR and
the Federal Republic of Germany.
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Science Bio-Polymer Synthesis. Peroxisome Blochemistry.

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Simulation of Business Systems,
Construction of a Seles Selection Test,
Sociocconomic study of the
Wolverhenpton Housing Market,
Provision of Legal Advice to Immigrants.

Provision of Legal Services in the New

Towns.

Appointments will be for a period of applicants will be for a period of two or three years and successful applicants will be required to register for a higher dogree where epproprieta, Salary under review following proposed fee increase for post-gradunts students. Further datails and application forms

from: Establishment Officer, The Polytechnic, Wolverhampton WV1 1LY. Telephona: 0902-27371 Ext. 94.

Newcastle upon Tyne Polytechnic

RESEARCH **ASSISTANTS**

(£2,240-£2,800, plus £312 p.a. salary supplement) Department of Behavloural Studies

naquited to work on research programme concerned with psychological aspects of smoking.

Applicanta, who should have a good Honoura Degree in Psychology/Physiology, should have experience in physiological monitoring or psychopharmacology and an interest in personality research. Preference will be given to applicants with postgraduate research experience, although recent graduates will be concluded. Raquirad to work on research programme concarned

Department of Chemistry Required to work on one of the following projects: trace metal determination in the environment; X-ray crystalicgrephy; Remen apectroscopy of electrolyte systems; ges-chromatography—mass spectrometry of drug metabolities; protein and peptide synthesis. Applicante ahould have a good Honours Degree in Chamistry or Joint Honours Oegree including Cham-

in each cesa, the successful candidate will be expected to register for a higher degree. The Assistant-ships are initially for a fixed period of two years. Further periculers and application forms, returnable by 25th April, 1977, please send atampad addressed foolacap envalops to Stelling Officer, Newcastle upon Tyna Polytachnio, Eillson Building, Eillson Pieca, Nawcastla upon Tyne NE1 8ST.

"REVIEW OF NEW COURSES"

FEATURE

will be published ph

Friday, May 6, 1977

For further datalls of advartising plaase contact

John Ladbrook 01-837 1234

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The PULYTECHNIC WOLVERNER

Senior Lecturer or Lecturer 2 in Contemporary European Studies (Economics)

Candidates should have on interest in Europeon Economic Systems, A particular interest in the oconomics of Western Europe on advantoge. Duties to commence 1st Seplember 1977.

Snlary: SL £5345-£6729 L2/SL £3591-£5448-£6729 Application form and further details nvallable from the Establishment Officer. The Polytechnic, Wulfrune Strest, Wolverhampton WV1 1LY (telephone Wolverhampton 27871) to whom applications should be returned by 29th April 1977.

Leeds Polytechnic

School of Mechanical and Production Engineering

LECTURER II IN PRODUCTION **ENGINEERING SUBJECTS**

Applications are invited from porsons with suitable acedesic qualifications, perficularly if they are currently orgaged in the development of their subjects, in leach on a wide verify of courses up to BSC Honeurs level and to participate in the development of a Moster's Ougree. The School offsis accellant localities for stall in develop their careas by taking higher degrees and to participate in a wide range of sessench, consultancy and short course week.

Salary Scala : £3,591-£5,205 (Includea £312 pet innum supplamant).

intersaled persons who wish to discuss the poet informally are invited to contact Or R. E. Schobold, School of Machanical and Production Engineering.

Tha Servicae Officar (E.13), Leads Polytschnic, Calvarley Strael, Laede LS1 3HE. Tat: 9532 41161. Closing Ocio : 30 April 1077. Please enclose s.a.s.

THE POLYTECHNIC HUDDERSFIELD SCHOOL OF ART AND CESIGN Principal Leciurar ACA/126 Applications are invited from cullebly qualified candidates in other Education or industry, and experienced in at least one of the littled of design. The ancertactus empiricals will be expected to be in the cohool which is currently a division in the leastly of st.

Lecturer II or Sanjor Lecturer in History of Art and Dasign ACA/127 Condidates about be qualified to teach history of art and dasign. Aca/127 Condidates about be qualified to teach history of art and dasign. The ectuon is invested in a vide range of courses including the dealing erchibeture, engineering, entireties and est and design which now developments are planned.

Altery Booles s

Principal Lecturer £5,040-£6,051 ber 16.417 [plus £312]

Ballory Booles (1 £3,031-£6,051 ber 16.417 [plus £312]

Lecturer 11 £3,270-£5,031 [ber 16.417 [plus £312]

Application forms and in the particulars from the Established Office, The Polytechnic, Oueenagate, Hudderstield HOI 30H [M] Lecturer II or Sanjor Lecturer in

Application forms
Office, The Polytechnic, Odeenegate,
0484 \$2286, extension 2228).
Application forms to be returned by May 5, 1877.

Feculty of Human Ociencas Dapartment of Paychology Lecturer II in Social Psychology

Candidates should have an Honours Osgres in Psychology a squivalent. Experience of teaching, recently, or professional art Belary ecala: Lacturer II : £3,279 to £5,493 place in the control of the control

Closing date: April 28, 1077, Plones quair above relatence

North East London Polytechnic

MANCHESTER THE POLYTECHNIC DEPARTMENT OF PINE AILT. PART-TIME SENIOR LECTURER (Hell of fail-lime for 1977:78

An artial, primarily a painter, is sought who should be capable of working across the Ocuariment on a whola.

Solary scale: £5,031 to 61,975 plus £712 for annum supplement, pro nata runder reviaw. review,

For invitor particulars and application form treatments by 30th April. 1977; please send a self-sudrassed envelope marked "A/256" to the Secretary, Manchaner Polyiochak. Lower Ormand Sirect, Manchaner Construction of the Secretary States Applications are invited to post of:

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WHILL CITY POLYTECHHIC

MAGENERY OR LECTURER 11

| Kifis : Senier Lecturer : £5,34]-| (tar) = £6,729. Lecturer 11 : 145,845

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PLYMOUTH POLYTECHNIC

SCHOOL OF MARITALE

PRINCIPAL

LECTURER

ASTRONOMY

Setary: 1948-17578
[Whi p.s. supplement]
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Application forms to be re-lated by 8th May, 1977, can be obtained with further par-tions from the Personnel

Med City Polyfechnic EPARTMENT OF

DERN LANGUAGE

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at a Salary of £2,529

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SHEFFIELD CITY POLYTECHNIC to all the full for the follow-te all the separation of the follow-ter and all the separation of the follow-ter all the separation of the follow-sing encompanies in pudertake and the separation of the follow-ter all the separations of the follow-sing encompanies of the follow-ter all the separations of the separation of the separati DEPARTMENT OF MIDDERN LANGUAGES

LECTPHER GRADE II IN FRENCH

The successful applicant with he a flucut user of the written and spoken forms of French and will have an established interest and qualifications in the Politics and/or Modern History of France.

where encoraginated to undertake and patter approved consultancy. The rath of the under-mented patt should have be oppopulated tabustal experience (meteod and small, expeted or loading a load industries) and, a make, exprises a research or a cumply function. All course prunticipitary and cell for a new pack to profit and subject division. The course course course to the course of the course Appropriate research in-terests and a familiarity with language laboratory caching techniques would be udditional recommenda-tions for this post, 12 for A TOO KINGE

STURE LICEUS OR LECTURER 11

IN THE MICHOSTORY

IN THE MI Salory scale: 13,591. £5,805.

E5,805. Write for an application form and further dends to the Personnel Officer, Sheffleld Chy Polytechnic, Helfards Honse, Firzalan Square, Sheffleld, St 2BB, to whom completed turms should be returned by 25th April, 1977.

BRISTOL. THE POLYTECHNIC Amplications invited for the following posts, duties to commence 1 September, 1977,

OUPARTMENT OF DESIGN LECTURES IT SERVICE TESTINATE FOR NO. 1.19.5 fostion designors are inclind in make application for the shoot of the shoot of the shoot of tables and fastiles to act as sure as the shoot of the

ACCOUNTING AND LINANCE LECTION'S IL-SENDO LECTIONES IN ACCESSINTING Del. No. 121, 5 as compley and auditing

The successful applicant will join a from all accounting white teaching a variety of the control of the control

INTERMINET OF BEHINDS
HELDWICK II, DENIGOUS AND PHARMAL SECURY
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Colleges of Higher Education

DERBY DERRY LONSDALE COLLEGE OF HIGHER ENDICATION LOCAL TO BE SEED OF THE PROPERTY O

Applications are invited for the post of LCGIIGER II in THEALOUY and PELLITERIS 510 DES from September. system atom segranger.

It is hope I dust, white ready id mote a general considered of the considered Colleges of Higher Education

Hull College of Higher Education

The Collogs wishes to appoint well-qualitied and exper-ienced staff in the tallowing steas who will be involved in the development and teaching of a range of degree and

ACCOUNTANCY P3YCHOLOGY COMPUTING SOCIAL WORK SCCRETARIAL STUDIES MENTAL HAND:CAP QM/STATISTICS

HCHE has an embitious course development programme in ausiness and Management Studies and the Social Sciences. Coursee to be ollered from September, 1977, include: BA(Hons) ausinase Studies (CNAA), aEd, COSW, Diplome in Management Studies and a range of HND courses. Proposed developmente include undergraduate courses in Social Studies, Combined Studies, Architecture and Administrative and Lagel Studies as well as a college-wide DipHE.

Further particulers and application forms from Mrs D. Liddeff at the above address, to whom completed applications must be returned by April 30.

This College is formed from ou entalgamation of Colleges of Art Communes Education Nauncal Studies and Technology

Sediordshire Education Service BEDFORD COLLEGE

ol Higher Education Applications are invited to appointment to the following posts as from September, 1677 —

School of Human Movament Studies LECTURER II IN PRACTICAL SUBJECTS

Conditions in it invested to leach elementary and sevenced Conditional stemptor games and either preclical audists. An ability to contribute to the leaching all educational gymnastics and profes-sional mudise would be an adventage. Applicants will be expected to pley a full part in the supervision at teaching practice.

School of Humanilies

LECTURER I IN GEOGRAPHY Applicable should be good learner gradietes with research interest in the light of recreational resource management. The successful candidate will be required to load; aspects at the OEd degree course, and to make a tentificial in a throughout of the development of starmative degrees currently awelling whildnion by CNAA. Fullier details and application tomo ere available hom the Ofrecier, Sedford Cellege at Higher Education, Couldwall Brest, Sadioid MK42 OAH, to be released not later than May 2, 1077.

Colleges of Art

DUNCAN OF JORDANSTONE COLLEGE DE ART ANO THE UNIVERSITY DF OUNDEE DEPARTMENT OF ARCHITECTURE

FACULTY OF ENVIRONMENTAL STUDIES LECTURER/STUDIO MASTER

Applications ere invited from architects from home or abroad, for the ebove appointment of 12 months' duration commencing between Juna end September, 1977, to teach in atther the asc or aarch (Hone) course.

SHORT-TERM APPOINTMENT

Applicente should heve apaulalles knowledge in soma liald of Architecture, Architectura in Osvaloping Countries, Landscapa Architectura, Interior Dasign or other related araas. Pravious teaching experience is not assential and the asiary fe nagoliable within the renge £3,528/£8,807 annually (Laoturar A Greda).

Further particulars and forms of epplication may be obtained from the Secretary, Dussen of Jordanstone Octolega of Ari, Perth Reed, Dundes DD1 4HT (Islephins) 22261, extension 6), to whom completed epplications should be returned before May 31, 1877.

DUNCAN OF JORDANSTONE COLLEGE OF ART ANO THE UNIVERSITY DE OUNCEE

POST OF LEGTURER (A) IN THE DEPARTMENT OF TOWN AND REGIONAL PLANNING

Applications are invited for the above appointment. The person eppointed will be expected to specialize in the teaching of selected aspects of Urban Pienning at undergraduate level. The duties will include assisting in the augustyleton of the Practical Work of a section of the

Applicants should be Cheriered Planners and/or have academic qualifications in Town and Country Planning and il would be adventageous it thay had an interest in the three-dimensional aspect of plenning or recent practical expaniance of the stellutory Planning Process. The salary scale is £3,528/£8,807 par annum.

Further particulars and lorms of application may be obtained from the Secretary, Ouncan of Jordanetone College of Art, Ferth Road, Dunder OD1 4HT (telephone 23251, extension 5), to whom completed applications should be returned below May 31, 1977.

Colleges and Institutes of Education



School of Business Management Studies SENIOR LECTURER or LECTURER in BUSINESS STUDIES

Economics of Lew graduate with relevent expenser color degree and other business education courses. Salary range £6,312-£8,028 per anishin of £3,528-£6,807 Assistance with removal expenses.

Gray'e School of Art

LECTURER in DRAWING and PAINTING

Practising artist with high stendard of draughtmenship, Selery in range £3.528-£9,807 par annum. Removel expenses assistance.

Removel expenses assistance.

Detaile from Chief Administretive Officer, Robert Gordon's inelitule of Tachnology, Schoolniti, Aberdeen A29 1FR. (0224-574511)

West Sussex Institute of Higher Education

Deputy Directors/ Heads of College

Balary, Group 7 of Vtca-Principat's Range, Surnhem Further Education Scalas : £9,250

This new institute has been formed from the Bishop Otter end Sognor Regis Colleges of Education and will be opening in September this year. Wa are eacking two Deputy Directors, one post to be combined with the Heedship of Stehop Otter College, Chichaslar (cendidates must be communicent mambars of the Church of England or of a Church in communion with it) and the other with Heedship of Sognor Ragis Collage. Cendideles may apply for one or both of these posts. Where application forms were previously submitted for poet of Oirector, these can be reconsidered it candidates signify in writing.

Further details and application forms available [elemped addressed anyalops] from Acting Clark to the Governors, 5 East Polisht, Chichaeler, West Sussex. Closing date May 2, 1977.

Official Appointments

Ealing College of LONDON Higher Education **Higher Education**

APPOINTMENT OF HEADS OF SCHOOL For 1 September 1977

School of Business Administration (Grade V)
All BEC courses including tyell established HND (Business Studies) and HND (Townson)

School of Economics and Accounting
CNAA BA Economics (FT) and all professional
accounting courses including Accountancy
Foundation Course; a CNAA BA
Accounting course is proposed. School of Humanities (Grade VI)
CNAA BA in Humanities (FI), 3 vt (FI)
Diploma in Photograph, 3 vt (FI) course in
Integrated Design, and all Music courses

School of Language Studies (Grade VI)

School of Language Studies (Grade VI)

GNAA BA in Applied Languages (FT), CNAA

postgraduate diplome courses in Charese,

Contamporary German Studies, English ies, wid Languege in the Communic together with all EFL and ESL courses School of Law and Social Studies ENAA BA In Law (FT & PT), CNAA BA

in Modern European Studios (FT) and Diploma in Socio-Legal Studios Options in Socio-Legal Studies
Conductes for the above posts should passess
distinguished studence qualifications, have
had Equilibrate teaching exportance at
Undergraphine level, have indiagosist skills
of a high order and death, curtain
respect indicates:
Burisham Head of Department salary
grades will epist, plus London
Allowance of 1402 ps.
Falling Tankalist Callings Empress

Ealing Tachnical Cellags becomes part of the new Ealing Collage of Higher Education on 1 Septamber 1877 Further details of each of the

The Clerk to the Governing Body

(TO VO, Exling Tachnicat College

at Mely's Poad

Ealing London W5 5RF

Closing Sale 3 Mey 1977

Colleges and

Departments of A

LONDON

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MENCILANT NAT

ART TUTOR Research to the local state of the local

Administration

THE POLYTICAL

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For further deat fore 25th April to lant Berrotary, Co Polytechnic, 1177 dilch, London &

THE ADMINIST

This is a new Consumpling Service to Administrative Service Consumpling Service Consumpling Consumption Consumptio

particulars described to the court of Sussex St. Com. Sussex St. Com. St. C

THE PLASTED RUBBER INSE

EDUCATION &

For full internal application of the control of the

LONDO

SERVICES OF

The Council of Torrons College of Advanced Education invites sppilcetions from outstanding net educators for appointment to the position of

PRINCIPAL OF THE

SOUTH AUSTRALIAN SCHOOL OF ART

The South Austrelien School of Art was incorporated as port of Torrena College of Advanced Education by Act of Parillament in 1972. Torrena College is a mutti-disciplinary College being established at Underdela, tiva kilometroe from the centre of Adeleide, Currently the South Australian School of Art is situated in North Adelaide with two mejor end several minor extensions on other sites for the conducting of some course work and service arass. It is anticipeted that the first section of the School of Art will move to new iscillates in Underdele by mid-1877, and the remeinder of the School by 1980.

The College consists of tive Schools, including the South Austrellen School of Art, responsible to the Director end to the Councit. The Principet of the South Australien School of Art, fe en ox officio member of the Council.

The South Australian School of Art has had a long fredition of education in the Vieuol Arts and Deelgn and currently has the responsibility of the aducation of those wishing to become pracilising ertists and dasigners. The Council esse the Principal as the oducational teader in the future developments of the

Psinting, Sculpture and Printmaking;
Diploma courses in Daeign in areas of Coromics, Grephics, Product and Furniture. A possible Becholor of Arts degree in Design to Incorporate those is under consideration.

Associate Diploma courses in Commercial Art, Photography, Crefts, Caremics, Product Dostgn, and Jaweltary and Sitversmithing.

Other courses in Design may be introduced in the future.
The South Australian Behool of Art has the responsibility of the predict Art training of students wishing to become Specialist Secondery Art Toachers as part of e Olphoma of Toaching (Secondary) and a Bodinator of Education.

The South Australian School of Art anjoys the prestige of being one of the leeding Austrelian Art Schools and in 1976 tiffy-threa acedemic and generot stoft were directly involved in teaching in the School. The School has three major Departments: Fine Art, Design and Secondary Art Teaching.

Further details regarding the position may be obtained from

Salary la at present under review, The minimum to be offered

Applications, with names and addresses of appropriate referees, should be received by:

The Ofrector,

Torrens College of Advanced Education,
Helbrooks Road, Undurdate,
South Austrelia 5032, Australia

and the second of the second o

DEVELOPMENT

by 31 Mey 1977

In 1977 the South Australian School of Art is olfaring the tollowing full-time courses of atudy:

1 A Bachelor of Arts course in Fine Art with stronds of

Arts in the College,



Applications are invited for the following posts:

Lecturer 1/If in Law

To teach general togs subjects, some perhaps at degree level. Applicants should have a good Law degree and/or professionel qualifications.

Lecturer It In Accounting

To teach in all least one of the following treas: Undergraduate programmes, final professional work post expanence management courses Applicants should have a degree and/or professional qualifications,

Lacturor I/II in Societarial Studios

To leach graduate and post A-level students Typowiking and Pitmans Strottland (the latter in English plus outhor Franch. Gorman or Sponish) Appunpitatu sacremiol qualifications and bilithose experience required plus one of the above longinges to detree level. Previous leaching experience dealishle. This post is termital from 1 May 1977 or as soon as

Lacturar I/II in Psychology (2 Posts)

To teach one or more of the following on CNAA degrees: of Languago; Applied Psychology.

Lacturar f/It in EFL (2 Posts) .

Toteach English as a Foreign Language.

Lecturer t/ff in Protossional Cookery To teach HND/OND plus City & Guilds 706 '1/2 '3

LI £2469 to £4377 pa

LII £3279 to £5493 p.i

plus 6402 pa London allowanco plus E312 pa Salary aupplement

The following posts are temporary appointments for our year from 1 September 1977 to 31 August 1976;

Research Assistant in Educational Studies

To work on a project analysing leaching and classroom interaction in Further and Higher Education.

Research Assistant as Goography

To research on a project in industrial change in the funden Borough of Eating, with particular rubustice to the Park Royat estate. Applicants should be good Herious griduoisa with a

Resperch Assistant in Law: Socio-Legal Studies For research in the investigation of administrative proceduras

with raterence to the role of law in the minigration appeal

process. Salary (occording to ago and experience) within range £3309 to £4592 pa inclusive of London allowerse. FALING TECHNICAL COILEGE DECOMES PART OF THE NEW EALING COLLEGE OF HIGHER EDUCATION ON 1 SEPTEMBER 1977

Further details of each of the above posts are available from

The Clark to the Ooverning Gody (TOVG)
Eating Tachnical College
6t Mary's Road

Eating London W5 5RF

Closing date 3 May 1977

Inspector/Adviser in Primary Education

with special reference to the Juntor age range Bterling deta : tet Septembar, t 977, Balary : Burnham Haad Group Vttl

be monitoriet inspectorial end advisory in neture. The duties and rasponeibilitiae of the post with and, in the tirst inclance, will be besed at Shire Hall in Mold.

The County Council will be seeking a cendi-

date with --(a) good teaching experience in the Primery sector;
(b) experience as Head of Primery School;

a sound knowledge of current aducational thought and preatice in Primary aduca-

(d) active involvement in the professional avalopment and in-service aducation of

teachers; keennass, anthusissm, good interparsonal reletionships and e high work output.

The person appointed will be expanded to carry out his/her duties in both Watsh and English

medium schoole.

Application torms and turther information avaitable from the Personnat Officer, Shire Hat Mo'd (Mold 2121, Ext. 375), to whom they should be returned by 25th April, 1977.



General Vacancies

Adviser/Writers

Resource and Development Unit. As part of the Longman English Tasching Services the unit le responeible for advising on and preparing materials for the feeching of English ea a loreign/second languaga, and also assists in providing talechar orientation reisvent to the materials produced.

Experience of TEFL/TESL le essantial. For one of these poets this experience will have been gained in one or mors countries of the Arab World, praferebly at the socondary echool/intermediate lenguage level. For the other, Airlcan experience at the primery/baginners level ie meinly called for.

Exparience in the preparation of languega teaching materials and/or curriculum development ie also assantiat. A poet-graduata quetitication in the Italia of applied linguistics or aducation would

The poste are based in Harlow, Essex, but are likely to involve lorsign travel connected with the development of material for perticuler arees, up to a meximum of about three months a year.

For further detelle and an application form pleasa letephone of

Mrs S Etharington Pareonnal Officar Longman Group Limited, Longman House, Burnt Mfll, Harlow. Taf Herlow (0279) 26721





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PART TIME LECTURERS ON | DAY AND EVENING COURSES

Preference is given to those with ACA, ACCA or ACMA quelifications. These poets are likely to ettract those already engaged in the teaching profession.

The School elso has a centre in Birmingham. Further particulars may be obtgined from the appropriate LONGON SCHOOL OF ACCOUNTANCY

23/24 Old Beiley Tel 01-248 6951

20 Church Street Menchaster 4 1PN Tel 081 634 3740

Colleges of Further Education

THE UNIVERSITY M.A., M.PHIL.,

and PH.D. in PHILOSOPHY

The Department offers the above degrees. Each is affered on a parttime or full-time busis, . . . The M.A. degree is taken will specialization in one of :-

Philosophy of Education Religious Studies Philosophy of Science

The M.Phil. and Ph.D. degraes as laken by raseaich and thesis. taken by raseatch and thesis.

IThere to be no increase in pieseal part-lime lees. I

Further details available from the
Department Screenry, Department of

Philosophy, University of Surrey,
Guildford, GD2 SXN; COUNTY COUNCIL

TFORDSHIRE COLLEGE OF Haffloid Road, &t. Albens, |farts.

REGISTRAL AND CLERK TO THE GOVERNING HOOY

Applications from men and women for the nost of liegiatrar and Clork to the 150vernors are invited. The liegiatrar is the Chief Administrative Officer of the College and is responsible to the Principal for nil tion-leaching services: accretarial, administrative, Ifnancial, edinical, administrative, Ifnancial, technical, mulnionance and refectory. As Clork to the Governors and nice as Secretary to the Academic Beard the Minutes requires Agendon and Highland Propagate Agendon and Highland Propagate Agendon and Beards, as anowiedge of Controlline Proceedings, some experience in odministrative, some experience in odministrative, and experience in odministrative at the course in the dovelopment of the course introduces in

Salary AP4 ni present 63,356 to £3,703 plus outer fringe benefit of £120 and selecy supplement of £312.

LONDON INNER LONDON EDUCATION

DEPARTMENT OF INISINESS AND GENERAL STUDIES LECTIFIED IT IN INCTORY

Amplications are invited from a milesty qualified propie to lead the history of whole-greeny to students of the graphosed LA. fillows. In Visual Communications (Photography, 1989) and Televisions. Candidates should possess a strum commitment to mail a strum commitment to mail a strum control and the structure of mail and the structure of maintaines and the structure of photography; and the structure of maintaines are a structure of maintaines are a structure of maintaines and the structure of maintaines and maintaines are structured to maintaines.

The successful candidate will be based in a lively and average fillery of Art Unit, sality in occordance with the Highman 1.E. . Heperion on incremental cate within the report of the sality in the sality of the s Further particulars and application form (returnable within 14 days t obtainable from the Sentor Administrative Officer nt the College.



KNOW-HOW vital tarleveluping countries

OVERSEAS

Education Overseas-Burma Adviser in Education Planning

To advise Director General, Department of Higher Educa-tion in Identification of priority projects in education field; rationalisation in structuring end restructuring of advication systeme; etrengthening inter-ratationship between aducationel planning and manpower ptenning. Applicante, egad about 45, should have theoretical and practicet experience in field of Education Planning and Statistics, with knowledge of Tachnicet and Vocational Education. Appointment 3 yeore.

ment 3 yeore.
Salary eccording to quellifications and experience plus variable tax tree oversees allowence in range £885 to £2,300 p.a. Buparennuation rights may be safeguarded. The post le wholfy financed by the British Government under British's programmo of eld to the developing countries. In addition to basic setary and oversees allowences other benefits normally include peld leave, tree family passages, children's education allowences and holiday visits, tree eccommodation and medical ettention. Applicants should be citizene of the United Kingdom. For full detaits and application form please apply, quoting raf. 317, giving detaits of age, qualifications and experience to:—

Appointments Officer. MINISTRY OF OVERSEAS DEVELOPMENT. Room 301, Eland House,

HELPING NATIONS HELP THEMSELVES I

Stag Place, London SWIE 5DH.

Officers. Torrens College of Advanced Education

United Nations International School

The position, Daan of Studias, tiss basin created at UNIS for appointment September t, 1977. Applications will be received through May 6, 1977, with announce ment of appointment to be made by mid-June.

The primary objective of the Dean of Studies is the perfection of a concapt of international education appropriate for UNIS to provide coordination and leadership in our

riculum and methodology to ensure equilable and rational standards of methodology, continuity of curricule, and consistency in subject requirements and regula-

--- to direct the operation of the Internetione Education Center

... to ensure that foculty appointment and renewal procedures are properly followed, and are in the best interests of the school

... for the operation of the school's in-service treining rola end for its dovalopment as a centre of expartisa in international education. The Job Description Committee

Applications and inquires should be mailed to:-Eltzabeth Kahn, Sscretery, Academic Deen Search Committee, United Nations International School, 24-50 East River Drive, Naw York, NY 10010.

Administration continued

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ASSISTANT SECRETARY (FURTHER EDUCATION)

required with effect from Septembor 1, 1977, by the Nettonof Association of Teachers in Further and Higher Education, Hamilton House, Mabitadon Place, London

Solary on Burnhem Scale HOD Greda ttl/IV, £6,231 par snnum to £7,632 par annum (plus supplemente of £312 end £180, and London Alfowenco of £402). Further detelle and epplication form (returnebla by May t0) from Ganeral Secretary (Islaphona 01-387 6808, exten-ston 6).

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John Ladbrook 01-837 1234

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